

24
No. 12485

United States
Court of Appeals
for the Ninth Circuit.

LeROY J. LEISHMAN,

Appellant.

vs.

GENERAL MOTORS CORPORATION,

Appellee.

Transcript of Record
In Four Volumes
Volume I
(Pages 1 to 328)

Appeal from the United States District Court,
Southern District of California,
Central Division.

AUG 4 1950

PAUL P. O'BRIEN,

CLERK

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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in *italic*; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in *italic* the two words between which the omission seems to occur.]

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NAMES AND ADDRESSES OF ATTORNEYS

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LEONARD S. LYON,

LEONARD S. LYON, JR.,

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Los Angeles 17, Calif.

In the United States District Court, Southern District of California, Central Division.

Declaratory Judgment Suit on Leishman
Reissue Patent No. Re. 20,827

Civil Action No. 5781-Y

GENERAL MOTORS CORPORATION, a corporation,

Plaintiff,

vs.

LeROY J. LEISHMAN,

Defendant.

COMPLAINT

Comes now the plaintiff and for cause of action against defendant alleges as follows:

I.

Plaintiff General Motors Corporation is a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Detroit, in the State of Michigan.

II.

Defendant LeRoy J. Leishman is a citizen, resident, and inhabitant of the State of California, residing in the City of Los Angeles and within the Southern District of California, Central Division.

III.

This is a suit for declaratory relief, and the jurisdiction of the court depends upon the Declaratory Relief Act, Judicial Code § 274-d, 28 U.S.C.A. § 400, and the patent laws of the United States. [2*]

IV.

This action arises out of a controversy over the question of validity and infringement of the United States Reissue Letters Patent No. 20,827 of the Defendant, LeRoy J. Leishman, granted August 16, 1938, on "Means and Method for Turning Rotatable Objects to Predetermined Positions."

V.

This action arises because there is an actual controversy now existing between the parties in respect of which Plaintiff needs a declaration of its rights by this Court, in that:

(a) Plaintiff has been, is now and intends to continue to be engaged in the manufacture and sale of radio tuners (incorporated in radio receiving sets), as exemplified by the specimen marked "Exhibit 1" filed herewith and made a part hereof.

(b) Plaintiff has manufactured and intends to manufacture and sell radio tuners (incorporated in radio receiving sets), as exemplified by the speci-

*Page numbering stamped at bottom of page of original Transcript of Record.

men marked "Exhibit 2" herewith and made a part hereof.

(c) Defendant has asserted and is asserting that said Patent No. Re. 20827 is valid, and that Claims 7, 8, 9, 10, and 11 of said patent are of such scope as to render the aforesaid tuners, "Exhibits 1 and 2," infringements thereof.

(d) Defendant has attempted and is attempting to bring within the scope of his asserted patent monopoly all tuners similar to the aforesaid tuners, "Exhibits 1 and 2" manufactured and sold by Plaintiff; as a part of a planned campaign to that effect against the entire tuner industry:

1. On or about September 12, 1938, Defendant filed a complaint for the alleged infringement of Claims 7, 8, 9, 10, and 11 of Reissue Letters Patent No. Re. 20,827 against the Associated Wholesale Electric Co., in this District, Civil Action No. 1463-J; that in such case Defendant asserted that a radio tuner [3] manufactured by The Crosley Corporation, of Cincinnati, Ohio, a drawing of which is attached hereto marked Exhibit 3 and made a part hereof, constituted an infringement of the aforesaid claims.

2. On or about April 27, 1939, defendant filed a complaint for the alleged infringement of Claims 7, 8, 9, 10, and 11 of Reissue Letters Patent No. Re. 20,827 against Watson & Wilson, Inc., in this district, Civil Action No. 375-M; that in such case

defendant asserted a scope for the aforesaid claims which would render plaintiff's tuners, Exhibits 1 and 2, infringements of such claims.

3. On or about March, 1945, defendant filed a complaint for the alleged infringement of Claims 7, 8, 9, 10, and 11 of Reissue Letters Patent No. Re. 20,827 against The Richards and Conover Company, in the United States District Court for the Western District of Oklahoma, Civil Action No. 2155; that in such case defendant has asserted, and is still asserting, that radio tuners manufactured by the Radio Condenser Company and General Instrument Corporation, drawings of which are attached hereto marked Exhibits 4 and 5, respectively, and made a part hereof, constituted an infringement of the aforesaid claims.

4. On or about April 20, 1945, a complaint was filed for declaratory relief by Radio Condenser Company and General Instrument Corporation against defendant LeRoy J. Leishman, praying a declaration that Claims 7, 8, 9, 10, and 11 of said Reissue Letters Patent No. Re 20,827 be held invalid and not infringed by tuners manufactured by said Radio Condenser Company and General Instrument Corporation, drawings of which are hereinabove identified as Exhibits 4 and 5, respectively; that in such [4] case defendant has asserted, and is continuing to assert, that these tuners, Exhibits 4 and 5, infringe Claims 7, 8, 9, 10, and 11 of Reissue Letters Patent No. Re. 20,827.

VI.

The tuner manufactured by plaintiff and marked Exhibit 2 in this action, in so far as the subject matter of claims 7, 8, 9, 10, and 11 of Reissue Letters Patent No. Re. 20,827 is concerned, is the same as the tuner shown in the drawing marked Exhibit 3, the tuner shown in the drawing Marked Exhibit 4, and the tuner shown in the drawing marked Exhibit 5.

VII.

Plaintiff, in manufacturing and selling its tuners, has not, and is not, infringing said Reissue Letters Patent No. Re. 20,827.

VIII.

United States Reissue Letters Patent No. Re. 20,827 and the claims thereof are invalid and void on the following grounds:

(1) Because the alleged invention or discovery described and claimed in said Reissue Letters Patent No. Re. 20,827, and all material and substantial parts thereof had been, prior to the alleged invention or discovery thereof by the said LeRoy J. Leishman, or more than two years before the date of his original application for a patent therefor, patented or described or shown in the following Letters Patent of the United States and foreign countries:

United States Patent

Patent No.	Date	Inventor
290,894.....	December 25, 1883.....	Kettel
368,689.....	August 23, 1887.....	Seales
585,996.....	July 6, 1897.....	Woodbridge
1,687,420.....	October 9, 1928.....	Bast
1,704,754.....	March 12, 1929.....	Marvin
1,906,106.....	April 25, 1933.....	Schaefer
1,930,192.....	October 10, 1933.....	Cunningham
1,948,373.....	February 20, 1934.....	Flaherty
2,014,358.....	September 10, 1935.....	Miller
2,072,897.....	March 9, 1937.....	Marschalk

British Patent

405,716.....	February 15, 1934.....	Freytag
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and also other Letters Patent of the United States and foreign countries unknown to the plaintiff at this time but which, when known, plaintiff prays leave to insert by proper amendment in the complaint.

(2) Because the alleged invention purported to be patented by said Reissue Letters Patent No. Re. 20,827 did not constitute or contain patentable novelty or patentable invention within the meaning of the patent laws, in view of what was common knowledge and in view of the state of the art as it existed prior to the alleged invention or discovery of said alleged invention by the applicant, LeRoy J. Leishman, for said Reissue Letters Patent, or more than two years prior to his application for the original Letters Patent therefor, which state of the art is evidenced by the United States and foreign Letters Patent set forth in clause (1) hereof and by such other parts of the state of the art which plaintiff is ready to prove.

(3) Because the said Reissue Letters Patent No. Re. 20,827 is for a different invention from that disclosed and claimed in the original Letters Patent No. 2,108,538 of which it is a reissue. [6]

(4) Because the applicant, LeRoy J. Leishman, for said Reissue Letters Patent was not the first and/or original inventor or discoverer of the thing or things purported to be covered by said Reissue Letters Patent, of or any material or substantial part thereof, but the same thing or things, and all material and essential features, prior to the alleged invention or discovery thereof by Leishman, or for more than two years prior to the date of his original application for a patent therefor, had been invented by (if there be any patentable invention described and claimed in said Reissue Letters Patent) or known to and in public use by or on sale by the applicants for the United States Letters Patent set forth in clause (1) of this paragraph, residing at the residences stated in said patents, at said places of residence and elsewhere in the United States, and by others whose names and addresses, together with the place of knowledge, use, or sale, when ascertained, plaintiff prays leave to insert by amendment or otherwise.

(5) Because the purported disclaimer entered by defendant on November 10, 1939, to claims 8, 9 and 10 of said United States Reissue Letters Patent No. Re. 20,827 was and is invalid and improper in that by said disclaimer defendant sought to transform the combination purported to be cov-

ered by said claims prior to the entry of said disclaimer to a new and different combination.

Wherefore, Plaintiff Prays:

1. That this court decree that plaintiff has not infringed United States Reissue Letters Patent No. Re. 20,827; [7]

2. That this court decree that United States Reissue Letters Patent No. Re. 20,827 is invalid and void;

3. That by way of further relief, the Court grant a preliminary and final injunction against the Defendant, his agents and representatives, from representing to the trade, and particularly to Plaintiff's customers, that tuners manufactured and sold by Plaintiff are infringements of said United States Reissue Letters Patent No. Re. 20,827;

4. That Plaintiff be awarded its costs in this action;

5. That Plaintiff have such other and further relief as in equity and good conscience the Court may deem proper.

GENERAL MOTORS
CORPORATION,

By /s/ C. L. McCUEN,
Vice President.

/s/ LEONARD S. LYON,

/s/ LEONARD S. LYON, JR.,

Attorneys for Plaintiffs. [8]

State of Michigan,
County of Wayne—ss.

C. L. McCuen being first duly sworn, deposes and says:

That he is the Vice President of General Motors Corporation, the Plaintiff above named; that he has read the foregoing Complaint signed by him on behalf of said Plaintiff, General Motors Corporation, and knows the contents thereof and that the same are true except as to matters set forth upon information and belief, and as to such matters he verily beleives them to be true.

/s/ C. L. McCUEN.

Subscribed and sworn to before me this 16th day of September, 1946.

[Seal] /s/ FRED E. JONES,

Notary Public in and for the County of Wayne,
State of Michigan.

My Commission Expires March 18, 1950. [9]

EXHIBIT NO. 3
(Attached to Complaint)

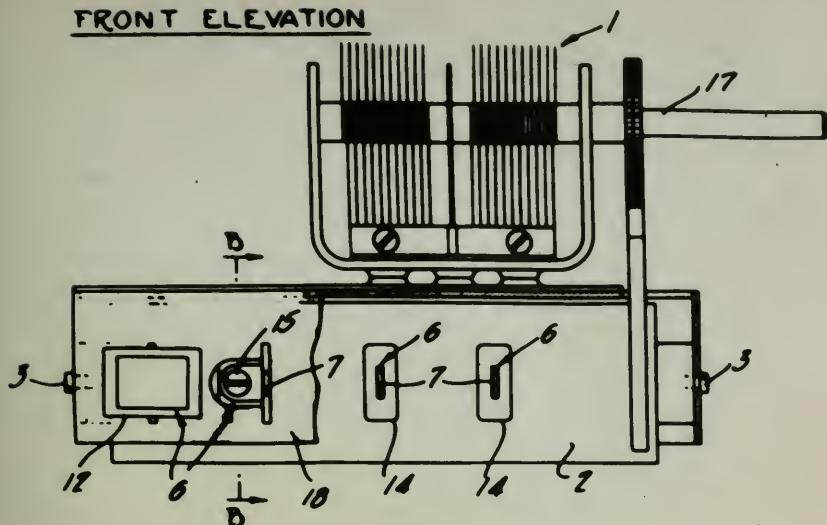
PLAINTIFF'S EXHIBIT NO. 12
(Admitted June 2, 1948)

- 1 - Radio apparatus tuning condenser
- 2 - Rotatable rocker mounted upon a shaft 3 and operatively connected with tuning condenser 1
- 4, 5 - Arms or shoulders of rotatable rocker 2, each extending on a different side of shaft 3
- 6 - Manually movable operating means for rocker 2, including bar 7.
- 8 - Positioning element in the form of a means adjustably movable about a pivot 9 carried by bar 7, this means having two ends 10 and 11, one of which engages one of the arms 4, 5 of rocker 2, when bar 7 is pushed inwardly or toward the left (See B-B) by means of push button 12. Bar 7 passes through rocker 2.
- 13 - Spring holding operating means 6 in the inoperative position of Sec B-B.

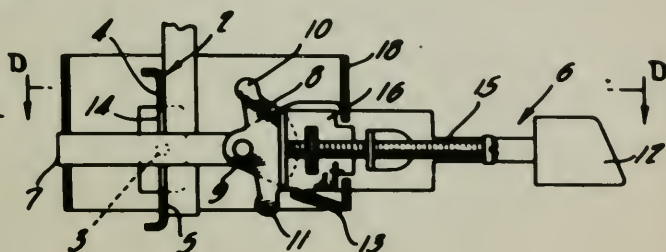
In section C-C, when operating means 6 is pushed to the limit of its movement, pivot 9 is substantially coaxial with rocker 2, there being a recess 14 in rocker 2 between arms 4, 5 to make this possible.

- 15 - Screw, operable from the external end of member 6 for holding positioning element 8 in adjusted position by the aid of clamp 16
- A plurality of operating means 6 is provided for rotating shaft 17 of tuning condenser 1 to a predetermined position, by any one of said means 6
- 18 - Cover panel for the mechanism, through which screws 18 extend.

FRONT ELEVATION

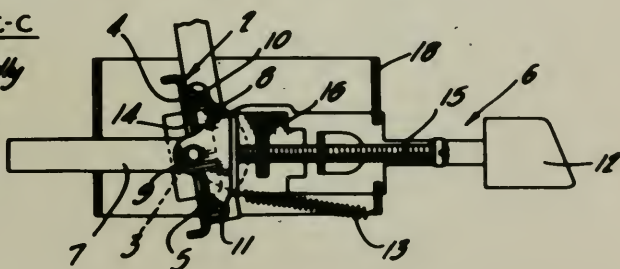


SECTION B-B

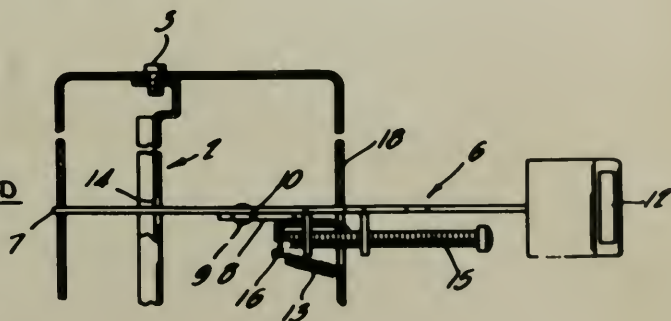


SECTION C-C

Taken on substantially the same plane as section B-B, but illustrating adjusting operation



SECTION D-D



RADIO CONDENSER COMPANY
CONDENSER AND TUNER
MODEL 28

EXHIBIT NO. 4
attached to Complaint)

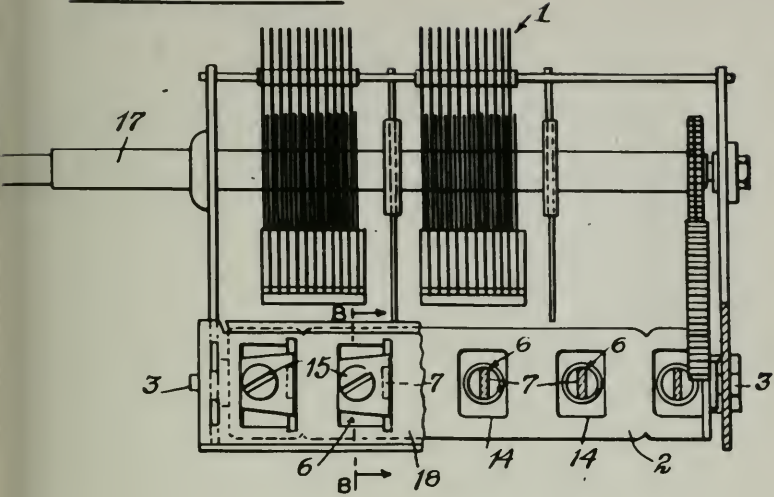
DEFENDANT'S EXHIBIT NO. 13
submitted June 2, 1948)

- 1 - Radio apparatus tuning condenser
- 2 - Rotatable rocker mounted upon a shaft 3 and operatively connected with tuning condenser 1
- 4, 5 - Arms or shoulders of rotatable rocker 2, each extending on a different side of shaft 3
- 6 - Plungers for rocker 2, including bar 7
- 8 - Tappet movable about a pivot 9 carried by bar 7, having two ends 10 and 11, one of which engages one of the arms 4, 5 of rocker 2, when bar 7 is pushed inwardly or toward the left (See B-B) by means of push button 12. Bar 7 passes through rocker 2, and through recess 14 in the rocker
- 13 - Spring for plunger 6.

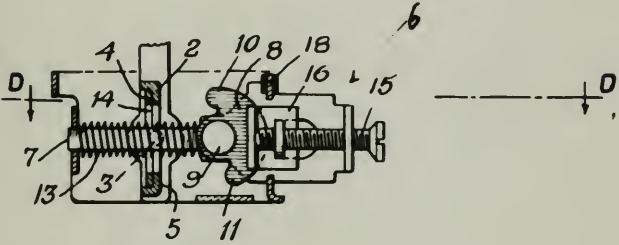
In section C-C, when plunger 6 is pushed to the limit of its movement, pivot 9 is substantially coaxial with rocker 2.
- 15 - Screw for holding tappet 8 in adjusted position by the aid of clamp 16

A plurality of plungers 6 is provided for rotating shaft 17 of tuning condenser 1 to a predetermined position, by any one of said plungers 6
- 18 - Cover panel for the mechanism, through which screws 15 extend.

FRONT ELEVATION

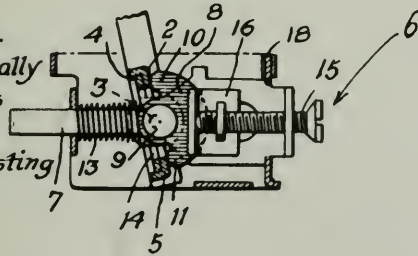


SECTION B-B

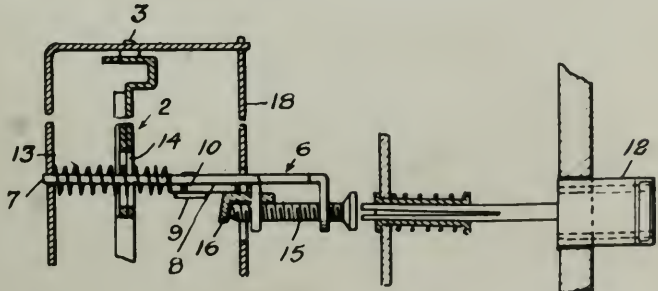


SECTION C-C

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same plane as
tion B-B, but
illustrating adjusting
operation



SECTION D-D



GENERAL INSTRUMENT CORPORATION
CONDENSER AND TUNER
MODEL 31

EXHIBIT NO. 5
(Attached to Complaint)

PLAINTIFF'S EXHIBIT NO. 14
(Admitted June 2, 1948)

- 1 - Radio apparatus tuning condenser
- 2 - Rotatable rocker mounted upon a shaft 3 and operating connected with tuning condenser 1
- 4, 5 - Arms or shoulders of rotatable rocker 2, each extending on a different side of shaft 3
- 6 - Plungers for rocker 2, including bar 7
- 8 - Tappet movable about a pivot 9 carried by bar 7, having two ends 10 and 11, one of which engages one of the arms 4, 5 of rocker 2, when bar 7 is pushed inwardly or toward the left (See B-B) by means of push button. Bar 7 passes through rocker 2, and through recess 12 in the rocker
- 13 - Spring for plunger 6.

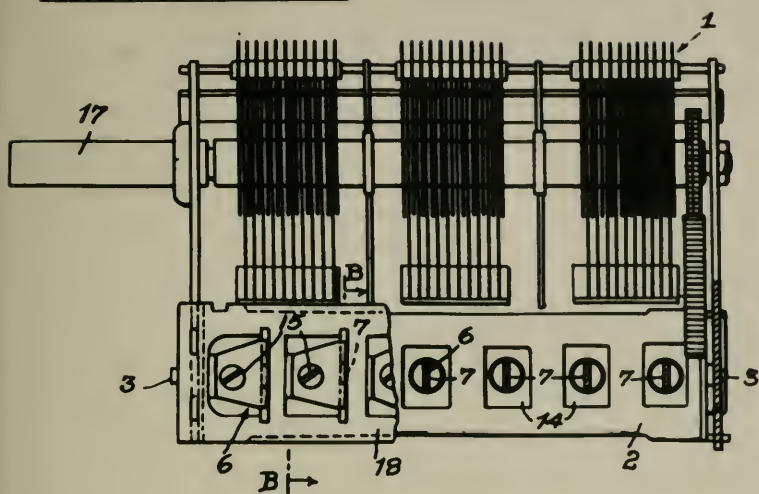
In section C-C, when plunger 6 is pushed to the limit of its movement, pivot 9 is substantially coaxial with rocker 2.
- 15 - Screw for holding tappet 8 in adjusted position by aid of clamp 16

A plurality of plungers 6 is provided for rotating shaft 17 of tuning condenser 1 to a predetermined position, by any one of said plungers 6
- 16 - Cover panel for the mechanism, through which screws extend.

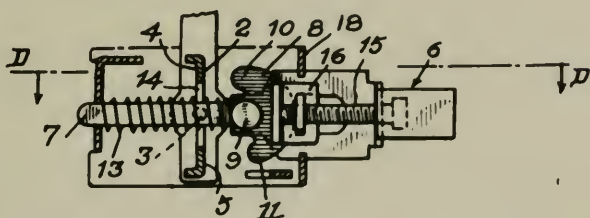
Exhibit 5

Enclosed : Filed Sept. 20, 1948.

FRONT ELEVATION

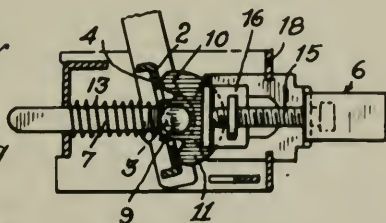


SECTION B-B

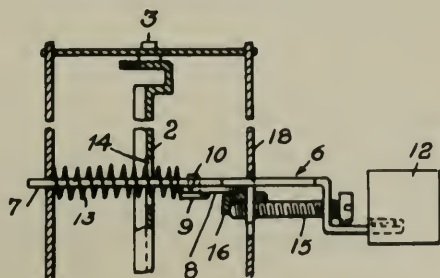


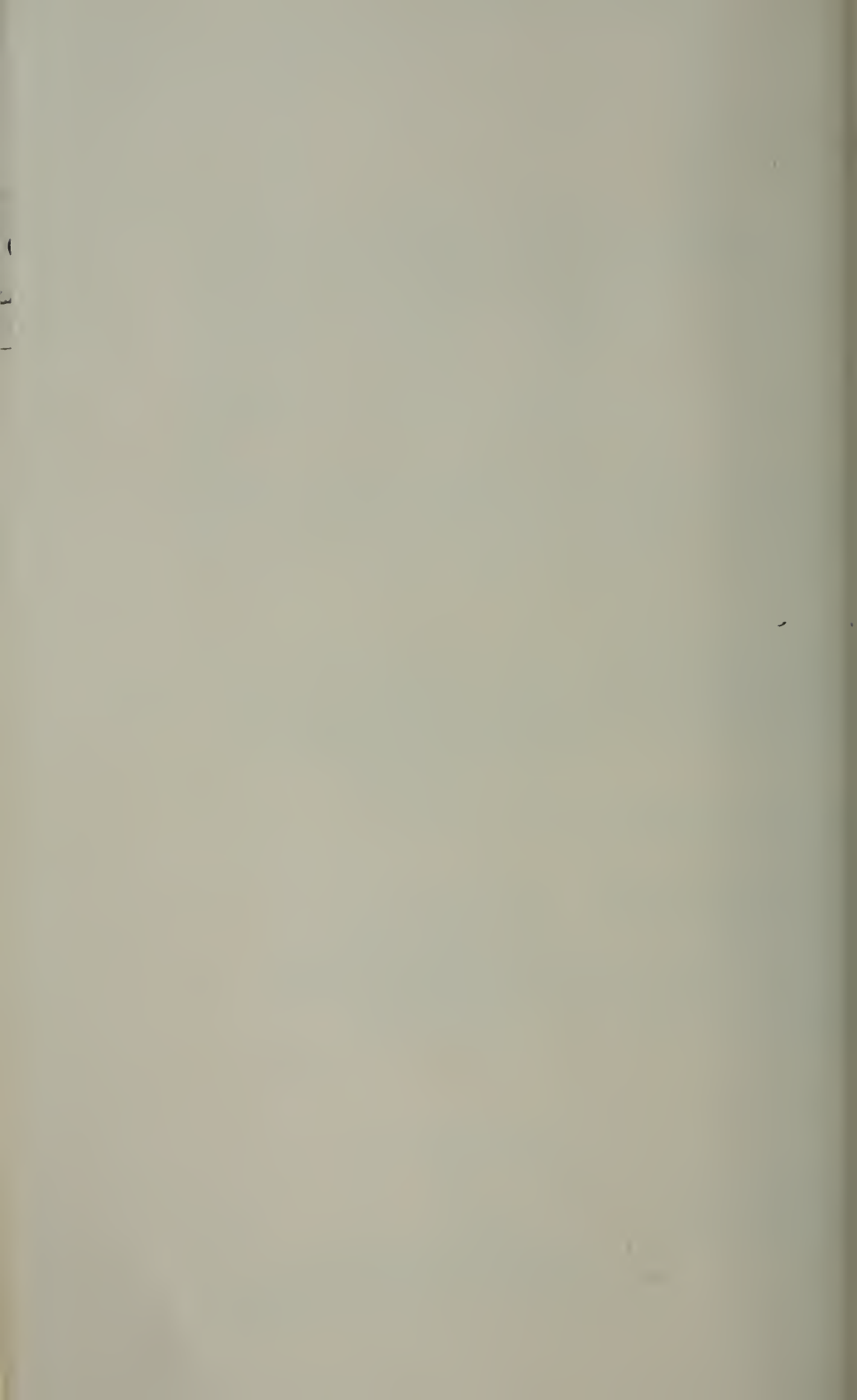
SECTION C-C

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ration



SECTION D-D





[Title of District Court and Cause.]

COUNTERCLAIM OF DEFENDANT

The defendant complains of the plaintiff and alleges:

I.

Plaintiff

Plaintiff General Motors Corporation is a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Detroit, in the State of Michigan. The plaintiff also has a place of business in Los Angeles, California.

II.

Defendant

Defendant LeRoy J. Leishman is a citizen, resident and inhabitant of the State of California, residing in the City of Los Angeles and within the Southern District of California, Central Division.

III.

Jurisdiction

(1) That the jurisdiction of this Court is based upon the Patent Laws of the United States of America.

(2) That the acts of infringement hereinafter complained of were and are being committed in the Southern District of California, Central Division, and elsewhere within the United States.

(3) Independent of the fact that the plaintiff has a place of business within this District and Division, the plaintiff has voluntarily brought itself within the jurisdiction of this court by filing a declaratory judgment action (No. 5781-Y) against the defendant.

IV.

Title to Patents

(1) On February 15, 1938, original United States Letters Patent No. 2,108,538, were duly and legally issued to defendant for an invention in "Means and Method for Turning Rotatable Objects to Predetermined Position," and on August 16, 1938, said Letters Patent were surrendered, and were duly and legally reissued as reissue Letters Patent No. Re. 20,827; and on or about January 16, 1939, the defendant disclaimed claim 5 of said reissue Letters Patent No. Re. 20,827.

(2) Defendant, since the date of the issuance of said original Letters Patent and until said original Letters Patent were surrendered, has been the owner of said original Letters Patent, and defendant, since the date when said reissue Letters Patent were granted, has been and still is the owner of said reissue Letters Patent.

V.

Infringement

That the plaintiff has, within the last six years and prior to the filing of the complaint, and subse-

quent to the date of granting of reissue Letters Patent No. Re. 20827, infringed claims 7, 8, 9, 10 and 11 thereof; and the plaintiff threatens [14] to continue so as to infringe by making or causing to be made, or selling or causing to be sold, or using or causing to be used within this district and elsewhere within the United States, automatic tuning mechanisms embodying the inventions disclosed and claimed in defendant's said reissue Letters Patent, wilfully and without the consent of the defendant.

VI.

Damages

That the plaintiff has derived unlawful gains and profits from such infringement which defendant would otherwise have received but for such infringement, and has thereby been caused irreparable damages.

Defendant Therefore Prays:

1. For a judgment from this Court that claims 7, 8, 9, 10 and 11 of United States Letters Patent No. Re. 20,827, are valid.

2. For a judgment from this Court that the plaintiff has infringed claims 7 to 11, inclusive, of the said reissue patent.

3. For a preliminary as well as a permanent injunction restraining the plaintiff, its officers, agent, servants, and employees from directly or indirectly making or causing to be made, selling or

causing to be sold, or using or causing to be used, any automatic tuning mechanisms embodying the inventions claimed in the said reissue Letters Patent No. Re. 20,827, or from infringing upon or violating the said Letters Patent in any way whatsoever.

4. For the costs and an accounting of profits and damages.

5. For a dismissal of the complaint on the ground that no proper basis for declaratory relief exists. [15]

6. For such other and further relief as the Court may deem meet and just.

/s/ LeROY J. LEISHMAN,
Defendant.

Dated, this 19th day of November, 1946, Los Angeles, California.

Affidavit of Service by Mail attached.

[Endorsed]: Filed Nov. 19, 1946. [16]

[Title of District Court and Cause.]

PLAINTIFF'S REPLY TO DEFENDANT'S
COUNTERCLAIM

Now Comes the Plaintiff and in reply to the Counterclaim filed by Defendant alleges as follows:

I.

In reply to Paragraph I of said Counterclaim, Plaintiff admits the allegations thereof.

II.

In reply to Paragraph II of said Counterclaim, Plaintiff admits the allegations thereof.

III.

In reply to Paragraph III of said Counterclaim, Plaintiff admits the allegations of sub-paragraphs (1) and (3) [21] thereunder, but specifically denies that any acts of infringement of Defendant's patent were or are being committed in the Southern District of California, Central Division, or elsewhere.

IV.

In reply to Paragraph IV of said Counterclaim, Plaintiff admits the allegations thereof.

V.

In reply to Paragraph V of said Counterclaim, Plaintiff specifically denies each and every allegation thereof.

VI.

In reply to Paragraph VI of said Counterclaim, Plaintiff specifically denies each and every allegation thereof.

For Further and Affirmative Defenses, Plaintiff Alleges:

VII.

United States Reissue Letters Patent No. Re. 20,827 and the claims thereof are invalid and void on the following grounds:

(1) Because the alleged invention or discovery described and claimed in said Reissue Letters Patent No. Re. 20,827, and all material and substantial parts thereof had been, prior to the alleged invention or discovery thereof by the said LeRoy J. Leishman, or more than two years before the date of his original application for a patent therefor, patented or described or shown in the following Letters Patent of the United States and foreign countries:

United States Patents

Patent No.	Date	Inventor
290,894.....	December 25, 1883.....	Kettel
368,689.....	August 23, 1887.....	Seales
585,996.....	July 6, 1897.....	Woodbridge
1,687,420.....	October 9, 1928.....	Bast
1,704,754.....	March 12, 1929.....	Marvin
1,906,106.....	April 25, 1933.....	Schaefer
1,930,192.....	October 10, 1933.....	Cunningham
1,948,373.....	February 20, 1934.....	Flaherty
2,014,358.....	September 10, 1935.....	Miller
2,072,897.....	March 9, 1937.....	Marschalk

British Patent

405,716.....	February 15, 1934.....	Freytag
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and also other Letters Patent of the United States and foreign countries unknown to the Plaintiff at this time but which, when known, Plaintiff prays leave to insert by proper amendment herein.

(2) Because the alleged invention purported to be patented by said Reissue Letters Patent No. Re. 20,827 did not constitute or contain patentable novelty or patentable invention within the meaning

of the patent laws, in view of what was common knowledge, and in view of the state of art as it existed prior to the alleged invention or discovery of said alleged invention by the applicant, LeRoy J. Leishman, for said Reissue Letters Patent, or more than two years prior to his application for the original Letters Patent therefor, which state of the art is evidenced by the United States and foreign Letters Patent set forth in Clause (1) hereof, and by such other parts of the state of the art which Plaintiff is ready to prove.

(3) Because the said Reissue Letters Patent No. Re. 20,827 is for a different invention from that disclosed and claimed in the original Letters Patent No. 2,108,538 of which it is a Réissue. [23]

(4) Because the applicant, LeRoy J. Leishman, for said Reissue Letters Patent was not the first and/or original inventor or discoverer of the thing or things purported to be covered by said Reissue Letters Patent, or of any material or substantial part thereof, but the same thing or things, and all material and essential features, prior to the alleged invention or discovery thereof by Leishman, or for more than two years prior to the date of his original application for a patent therefor, had been invented by (if there be any patentable invention described and claimed in said Reissue Letters Patent) or known to and in public use by or on sale by the applicants for the United States Letters Patent set forth in Clause (1) of this Paragraph, re-

siding at the residence stated in said patents, at said places of residence and elsewhere in the United States, and by others whose names and addresses, together with the place of knowledge, use, or sale, when ascertained, Plaintiff prays leave to insert by amendment or otherwise.

(5) Because the purported disclaimer entered by Defendant on November 10, 1939, to Claims 8, 9 and 10 of said United States Reissue Letters Patent No. Re. 20,827 was and is invalid and improper in that by said disclaimer Defendant sought to transform the combination purported to be covered by said claims prior to the entry of said disclaimer to a new and different combination.

Wherefore, Plaintiff prays that Defendant's Counterclaim be dismissed, and that said Defendant take nothing thereunder, and that Plaintiff have such further and additional relief as the Court may deem fit and just, including Plaintiff's costs.

GENERAL MOTORS
CORPORATION,

By /s/ LEONARD S. LYON,
By /s/ LEONARD S. LYON, JR.,
Attorneys for Plaintiff.

Affidavit of Service by Mail attached.

[Endorsed]: Filed Jan. 10, 1947. [24]

[Title of District Court and Cause.]

DEFENDANT'S ANSWER

To the Honorable the Judges of the District Court
of the United States in and for the Southern
District of California:

Defendant, for answer to Plaintiff's Complaint
in the above-entitled cause, says:

I.

Defendant admits the allegations of Paragraphs
I, II, III, IV, Va, Vb, Vc, V1, V2, V3, V4 and VI.

II.

Defendant denies the allegations of Paragraph
Vd, because such tuners are already within the
scope of defendant's Reissue Patent No. Re. 20,827.

III.

Defendant denies the allegations of Paragraph
VII, and also of Paragraph VIII in its entirety.

/s/ LeROY J. LEISHMAN,
Defendant.

Affidavit of Service by Mail attached.

[Endorsed]: Filed Feb. 20, 1947. [28]

[Title of District Court and Cause.]

MEMORANDUM OPPOSING DEFENDANT'S
MOTION FOR SUMMARY JUDGMENT

* * *

The devices complained of herein are radio receivers only and have no associated television apparatus, and thus are concerned only with a portion of the mechanism of the patent in suit.

The mechanism of the Leishman reissue patent may be readily understood from Figure 2 of the drawings of the patent in suit (Pltffs. Ex. 6). It will be seen that the mechanism of [41] the patent includes a lever F pivoted at Q. The lever F has a projection to which is pivoted a cam or tappet 61. A rocker 48 is mounted upon a shaft which is intended to be connected with the tuning shaft of a radio receiver. The position of the cam or tappet 61 on the lever F may be fixed by a friction lock actuated by a second lever 66 pivoted to the lever F and held by a set screw 72. The spring 73 normally holds the lever assembly up and out of the way.

With this apparatus, after the cam or tappet 61 has been locked in a certain position on the lever F, whenever the lever F is pressed downwardly, as by the operator's finger on the set screw 72, the cam or tappet will contact the rocker 48 and rotate the rocker to a predetermined position. If the cam or tappet has been properly set, this rotation of the rocker 48 will move the tuning shaft of the

radio receiver to the correct position for bringing in a selected radio station.

In the drawing there appears a second cam or tappet 62 which is mounted upon the lever F and is shaped to contact another rocker 54 mounted upon a shaft distinct from the shaft of the rocker 48, which second shaft is intended to be the tuning shaft of a television receiving apparatus and which is not present in plaintiff's accused tuners.

The device of the patent in suit, therefore, consists essentially of three elements; a lever adjustably mounting a tappet which is movable by the lever into contact with a rocker attached to the shaft to be positioned by a movement of the lever.

This type of mechanism has long been used in cash registers as illustrated by patent No. 585,996 to Woodbridge (Pltffs. Ex. 7) and by patent No. 2,014,358 to Miller (Pltffs. Ex. 8). The combination of the lever, tappet and rocker appears in the Woodbridge patent, as can be readily seen from Figure 10 of the patent. Levers C², C⁵ are shown connected with a tappet C³, [42] which is urged by a movement of the levers against the rocker D to turn a shaft of the cash register to a predetermined position. The same combination is found in the Miller patent, as can be seen from an examination of Figure 9 and page 2, line 14, et seq., of the patent. The mechanism of the Miller patent includes a lever 4 which moves its tappet portion 12, 13 into engagement with a rocker, including the bars 7 and 8, to turn the shaft attached to the rocker to a desired predetermined position.

Leishman was not the first to adapt this familiar mechanism to the task of turning a radio receiving set. Previous to Leishman's alleged invention, patent No. 1,906,106 to Schaefer (Pltffs. Ex. 9), issued April 25, 1933, disclosed a radio adapted to be automatically tuned by the operation of a lever employing the cash register type of mechanism. This patent will be considered more fully herein-after.

* * *

LYON & LYON,
/s/ LEONARD S. LYON,
/s/ LEONARD S. LYON, JR.,
Attorneys for Plaintiff. [89]

[Title of District Court and Cause.]

EXHIBIT 12

Affidavit of Samuel S. Mackeown on
Behalf of Plaintiff

State of California,
County of Los Angeles—ss.

Samuel S. Mackeown, being first duly sworn, deposes and says:

* * *

The tuner disclosed by Reissue Letters Patent No. 20,827, consisting essentially of the combination of a rocker, a tappet [98] and a lever, provides that the said rocker and tappet are coaxial, i.e., in the patent the rocker 48 is mounted on the shaft S and the shaft 49 and when the tappet 61 is brought into contact with the said rocker 48 by depressing the lever F, the pin 60 which provides the axis for the tappet 61 is coaxial with the said shafts S and 49. In order to obtain coaxiality in the tuner of the reissue patent, because such tuner is operated by a lever, it is necessary that the distance between the pin 60 and the pivot Q shall be equal to the distance between the pivot Q and the axis of the shafts 49 and S. Moreover, the tappet 61 must be so shaped that, when the lever F is pushed home, the axis of the tappet will line up in a vertical direction with the axis of the rocker 48. The plungers of the tuners Exhibits 1, 2, 3, 4 and 5 do not achieve coaxiality between rocker and tappet

in the same or in substantially the same way. Since the plungers of these tuners operate transversely with a push-rod motion, it is necessary to locate the position of the axis of the tappet in both horizontal and vertical direction so that, when the plunger is pushed home, the axis of the tappet will line up with the axis of the rocker. This is accomplished in a vertical direction by having two bearings for the push rod, one above and one below, and these bearings locate the center of the tappet so that it will lie in a vertical line that will be neither higher nor lower than the axis of the rocker. To achieve coaxiality in a horizontal direction, the tappet is so shaped that, when the plunger is pushed home, the axis of that tappet coincides with the rocker axis.

Moreover, the plungers of the tuners Exhibits 1, 2, 3, 4 and 5 achieve their results in a different way than do the levers of the patented combination in that a lever has the property of multiplying a mechanical force whereas a plunger does not. Where it is desirable to increase mechanical force, a plunger [99] cannot operate as a lever. For example, a plunger has no mechanical advantage when used to displace a large boulder whereas a crowbar used as a lever has such mechanical advantage. In the structure of the reissue patent in suit the force applied to operate its lever is multiplied through the lever action so that the force acting on the rockers is approximately doubled. Such force multiplying is not present in the transversely

operating plungers of the tuners Exhibits 1, 2, 3, 4 and 5. This increase in force shown in the patent in suit is subject to the disadvantage that the motion at the outer end of the lever must be greater than the motion applied to the rocker, which results in a tuning device characterized as the "cash register type," such as disclosed in prior art patent No. 1,906,106 to Schaefer (Pltffs. Ex. 9). Again, the frictional locking device as shown in the patented combination depends upon the aforementioned mechanical advantage of a lever and is not adopted for use in a plunger tuner.

* * *

/s/ SAMUEL S. MACKEOWN,

Subscribed and sworn to before me this 20th day of May, 1947.

[Seal] /s/ IRENE J. KNUDSEN,
Notary Public in and for the County of Los Angeles and State of California.

[Endorsed]: Filed May 23, 1947. [105]

[Title of District Court and Cause.]

DEFENDANT'S EXHIBIT YY—PLAINTIFF'S
ANSWERS TO DEFENDANT'S INTER-
ROGATORIES

Now Comes The Plaintiff, General Motors Corporation, under and in accord with the provisions of Rule 33 of the Federal Rules of Civil Procedure

and presents the following answers to such of the defendant's interrogatories as have not been objected to by the plaintiff:

Interrogatory 1: "What is the relationship of Delco Radio Division, of Kokomo, Indiana, to plaintiff, General Motors Corporation?"

Answer: The Delco Radio Division, of Kokomo, Indiana, is an unincorporated administrative unit of General Motors Corporation. [118]

Interrogatory 2: "Is Delco Radio Division, of Kokomo, Indiana, a subsidiary of plaintiff, General Motors Corporation?"

Answer: No, it is an integral part.

Interrogatory 3: "Is Delco Radio Division, of Kokomo, Indiana, wholly owned by plaintiff, General Motors Corporation?"

Answer: The physical assets of Delco Radio Division, of Kokomo, Indiana, are wholly owned by General Motors Corporation, but Delco Radio Division is an integral part of General Motors Corporation.

Interrogatory 4: "Was Bertram A. Schwarz employed by Delco Radio Division during the latter part of 1937 and the early part of 1938?"

Answer: Yes.

Interrogatory 5: "If the answer to Interrogatory 4 is in the affirmative, what was the capacity of said Schwarz with Delco Radio Division?"

Answer: Bertram A. Schwarz was employed

in the capacity of Chief Engineer with Delco Radio Division.

Interrogatory 6: "If the answer to Interrogatory 4 is in the affirmative, did the work of said Bertram A. Schwarz include any part of the design of push button tuners for radio receivers?"

Answer: Yes.

Interrogatory 7: "Was James G. Funk employed by Delco Radio Division during the latter part of 1937 and the early part of 1938?"

Answer: Yes. [119]

Interrogatory 8: "If the answer to Interrogatory 7 is in the affirmative, what was the capacity of said James G. Funk with Delco Radio Division?"

Answer: James G. Funk was employed in the capacity of Design Draftsman with Delco Radio Division.

Interrogatory 9: "If the answer to Interrogatory 7 is in the affirmative, did the work of the said James G. Funk include any part of the design of push button tuners for radio receivers?"

Answer: Yes.

Interrogatory 10: "Was Howard M. Stelzl employed by Delco Radio Division during the latter part of 1937 and the early part of 1938?"

Answer: Yes.

Interrogatory 11: "If the answer to Interrogatory 10 is in the affirmative, what was the capacity

of the said Howard M. Stelzl with Delco Radio Division?"

Answer: Howard M. Stelzl was employed in the capacity of Design Draftsman with Delco Radio Division.

Interrogatory 12: "If the answer to Interrogatory 10 is in the affirmative, did the work of the said Howard M. Stelzl include any part of the design of push button tuners for radio receivers?"

Answer: Yes.

Interrogatory 13: "Was Alfred George Rogers employed by Delco Radio Division during the early part of 1938?"

Answer: Yes. [120]

Interrogatory 14: "If the answer to Interrogatory 13 is in the affirmative, what was the capacity of the said Alfred George Rogers with Delco Radio Division?"

Answer: Alfred George Rogers was employed in the capacity of Assistant to Chief Engineer with Delco Radio Division, whose duties were mainly clerical.

Interrogatory 15: "If the answer to Interrogatory 13 is in the affirmative, did the work of the said Rogers include any part of the design of push button tuners for radio receivers?"

Answer: No.

Interrogatory 16: "Was William C. DeRoo employed by Delco Radio Division during the latter part of 1937 and the early part of 1938?"

Answer: Yes.

Interrogatory 17: "If the answer to Interrogatory 16 is in the affirmative, what was the capacity of the said DeRoo with Delco Radio Division?"

Answer: William C. DeRoo was employed in the capacity of Chief Draftsman with Delco Radio Division.

Interrogatory 18: "If the answer to Interrogatory 16 is in the affirmative, did the work of the said DeRoo include any part of the design of push button tuners for radio receivers?"

Answer: Yes.

Interrogatory 19: "Was Raymond A. Shuttleworth employed by Delco Radio Division during the latter part of 1937 and the early part of 1938?"

Answer: Yes. [121]

Interrogatory 20: "If the answer to Interrogatory 19 is in the affirmative, what was the capacity of the said Shuttleworth with Delco Radio Division?"

Answer: Raymond A. Shuttleworth was employed in the capacity of Design Draftsman with Delco Radio Division.

Interrogatory 21: "If the answer to Interrogatory 19 is in the affirmative, did the work of the said Shuttleworth include any part of the design of push button tuners for radio receivers?"

Answer: No.

Interrogatory 22: "Was Ludwig Fichter ever

employed in any engineering or drafting capacity by the Delco Radio Division?"

Answer: Yes.

Interrogatory 23: "If the answer to Interrogatory 22 is in the affirmative, when was the said Fichter first employed for such work?"

Answer: February 15, 1938.

Interrogatory 24: "If the answer to Interrogatory 22 is in the affirmative, was the said Fichter still with the Delco Radio Division in 1940?"

Answer: Yes.

Interrogatory 25: "If the answer to Interrogatory 22 is in the affirmative, did the work of the said Fichter include any part of the design of push button tuners for radio receivers?"

Answer: Yes. [122]

Interrogatory 26: "Was Andrew G. Tynan employed by Delco Radio Division in 1936, 1937, and 1938?"

Answer: Yes.

Interrogatory 27: "If the answer to Interrogatory 26 is in the affirmative, what was the capacity of the said Tynan with Delco Radio Division?"

Answer: Andrew G. Tynan was employed in the capacity of Electrical Engineer with Delco Radio Division.

Interrogatory 28: "If the answer to Interrogatory 26 is in the affirmative, did the work of said Tynan include any part of the design of push button tuners for radio receivers?"

Answer: No.

Interrogatory 29: "Were any persons other than those mentioned in the foregoing interrogatories connected in any way with the design of push button tuners for radio receivers at Delco Radio Division during any part of 1936, 1937, and 1938?"

Answer: No.

Interrogatory 30: "If the answer to Interrogatory 29 is in the affirmative, give a complete list of their names."

Answer: No answer required in view of the answer to the preceding interrogatory.

Interrogatory 31: "Is it not true that Delco Radio Division placed a push button tuner in production embodying racks and having certain features in common with the tuner shown on drawing Ax-3323, which said drawing was introduced as Exhibit 8 in behalf of Schwarz in Interference No. 78,359 in the United States Patent Office?"

Answer: No. [123]

Interrogatory 32: "If the answer to Interrogatory 31 is in the affirmative, when was such tuner placed in production?"

Answer: No answer required in view of the answer to the preceding interrogatory.

Interrogatory 33: "If the answer to Interrogatory 31 is in the affirmative, furnish the court with a copy of drawing Ax-3323."

Answer: No answer required in view of the answer to Interrogatory 31.

Interrogatory 34: "If the answer to Interrogatory 31 is in the affirmative, furnish the court with one of the said tuners."

Answer: No answer required in view of the answer to Interrogatory 31.

Interrogatory 35: "Is it not true that Delco Radio Division purchased more than 10,000 automatic tuners from Crowe Name Plate and Manufacturing Company, of Chicago, Illinois, during 1939 and 1940 which required that a screw driver be inserted through a tube attached to the shank of each plunger in order to loosen a screw before the mechanism could be adjusted so that the operation of the said plunger would tune in a predetermined station?"

Answer: Yes.

Interrogatory 36: "Was Delco Radio Division the first concern to manufacture tuners of the type exemplified by Plaintiff's Exhibit 1, in which the rotatable tappet is recessed to permit the rocker or treadle bar to become coaxial with the tappet in the tuned-in position?"

Answer: Plaintiff is not fully informed as to production by other concerns and, therefore, is unable to state whether or not they were the first concern to manufacture tuners of the type exemplified by Plaintiff's Exhibit 1. [124]

Interrogatory 37: "Is it not true that the structure of the rocker and tappet in plaintiff's Exhibit 1 was substantially copied or adapted from a Radio Condenser tuner in which the tappet was recessed

in order to permit the rocker to become coaxial with the tappet in the tuned-in position?"

Answer: The structure of the rocket and tappet in Plaintiff's Exhibit 1 was adapted by Plaintiff from a Radio Condenser tuner.

Interrogatory 38: "When did the plaintiff first place in production tuners of the type exemplified by plaintiff's Exhibit 1?"

Answer: Summer of 1940.

Interrogatory 39: "When did the plaintiff first place in production tuners of the type exemplified by plaintiff's Exhibit 2?"

Answer: April, 1947.

Interrogatories 40, 41, 42 and 43: 'Objected to.

Interrogatory 44: "What persons in the employ of plaintiff, General Motors Corporation, or Delco Radio Division, took part in the design of the tuner exemplified by plaintiff's Exhibit 1?"

Answer: None.

Interrogatory 45: "How long has each of the persons mentioned in Interrogatory 44 been in the employ of plaintiff, General Motors Corporation, or Delco Radio Division?"

Answer: No answer required in view of the answer to the preceding interrogatory. [125]

Interrogatory 46: "What persons in the employ of plaintiff, General Motors Corporation, or Delco Radio Division, took part in the design of the tuner exemplified by plaintiff's Exhibit 2?"

Answer: Bertram A. Schwarz, Manfred G. Wright, and Howard M. Stelzl took part in the design of the tuner exemplified in plaintiff's Exhibit 2.

Interrogatory 47: "How long has each of the persons mentioned in Interrogatory 46 been in the employ of plaintiff, General Motors Corporation, or Delco Radio Division?"

Answer: Mr. Bertram A. Schwarz has been in the employ of General Motors Corporation for approximately twelve years, Mr. Manfred G. Wright for approximately nine years, and Mr. Howard M. Stelzl for approximately eleven years.

Interrogatory 48: "Prior to 1941, how many applications for United States Letters Patent were filed relating to automatic radio tuning devices, and which were assigned to plaintiff, General Motors Corporation, in the names of Bertram A. Schwarz, James G. Funk, Howard M. Stelzl, William C. DeRoo, or Ludwig Fichter, either solely or jointly?"

Answer: Eleven.

Dated: Detroit, Michigan, May 12, 1948.

GENERAL MOTORS
CORPORATION,

By /s/ J. M. CRAWFORD,
Vice President.

/s/ LEONARD S. LYON,
Attorney for Plaintiff.

/s/ LEONARD S. LYON, JR.,
Attorney for Plaintiff. [126]

State of Michigan,
County of Wayne—ss.

Mr. James M. Crawford, being first duly sworn, deposes and says: I am Vice President of Plaintiff, General Motors Corporation. I have read a copy of Defendant's Interrogatories in this action and have read the foregoing Answers of the Plaintiff to the Interrogatories not objected to. According to the best of my information and belief said answers are true and correct.

/s/ J. M. CRAWFORD.

Subscribed and sworn to before me this 12th day of May, 1948.

[Seal] By /s/ FRED E. JONES,
Notary Public.

My Commission expires March 18, 1950.

Marked Defendant's Exhibit YY and admitted in evidence May 27, 1948.

Affidavit of Service by Mail attached.

[Endorsed]: Filed May 15, 1948. [127]

[Title of District Court and Cause.]

TRIAL BRIEF ON BEHALF OF
PLAINTIFF

* * *

The argument of defendant might be taken to mean, however, that Leishman conceives himself to be the man responsible for the practicable automatic

radio tuner. This again is manifestly erroneous in view of the existence of the Zenith tuner which came upon the market and was sold for two years during 1929 and 1930 (dfts. Exs. H and I, R. 313) which was patented as Schaefer patent No. 1,906,106 (ptfs. Ex. 18, R. 475), and which later reappeared in the form of a General Motors push button automatic automobile radio tuner (ptfs. Ex. 3, R. 327), of which approximately five hundred thousand were sold during the years 1939 and 1940 (R. 324). The Schaefer tuner consisted of an adjustable tappet pivoted to a lever which was brought into engagement with a rack and pinion structure rather than a rocker and which, as admitted by the defendant, solved any of the setting difficulties attributed by the defendant to Marschalk (dfts. Opening Brief, p. 18, 11. 22-25). [170]

* * *

As is admitted by all parties, the Crosley tuner and the subsequently developed push button tuners have achieved overwhelming commercial success and, finally, the Schaefer tuner, made over from lever form to plunger form into the General Motors tuner plaintiff's Exhibit 3, sold in the amount of five hundred thousand in 1939 and 1940 (R. 323).

* * *

Respectfully submitted

LYON & LYON,

/s/ LEONARD S. LYON,

/s/ LEONARD S. LYON, JR.,

Attorneys for Plaintiff.

Subscribed and sworn to before me this 5th day of November, 1948.

/s/ IRENE J. KNUDSEN,

Notary Public in and for the County and State above named.

Affidavit of Service by Mail attached.

[Endorsed]: Filed March 18, 1949.

— — —

[Title of District Court and Cause.]

CONCLUSIONS OF THE COURT AND MEMORANDUM OF DECISION

This action is for a declaratory judgment. The relief the plaintiff seeks is a judicial determination that certain radio tuning devices manufactured and sold by plaintiff do not infringe Claims 7 to 11, inclusive, of United States Reissue Letters Patent No. 20,827 applied for by defendant May 23, 1938, and granted to him August 16, 1938, and also that such patent claims are invalid. Issue was joined by defendant's answer and his counterclaim whereby he denied allegations of plaintiff's complaint and affirmatively alleged validity of the patent claims in suit and charged infringement thereof by certain radio tuning devices admittedly made and sold by the plaintiff corporation.

This cause was tried on the merits upon a transfer from another division of this court. It has been ably and [299] exhaustively briefed; the final brief

having been filed by defendant on April 16, 1949. Decision has been deferred until the Supreme Court acted upon a petition for certiorari to review a decision of the Court of Appeals of the Tenth Circuit which had invalidated the claims of the patent that are in issue before us. On April 18, 1949, the Supreme Court refused to review the Tenth Circuit decision by denying the petition for certiorari. Thus the questioned claims involved in this action have been held by a federal appellate court of superior authority to ours to involve no invention, and while the decision of the appellate court in the Tenth Circuit (*Richards and Conover Company v. Leishman*, 172 F. 2d 365), does not operate to control us in this action, our own Court of Appeals having never specifically invalidated the patent claims in issue, we think, however, that the appellate decision in the Tenth Circuit having been based upon substantially the same record as made herein, we should and do consider such decision as highly persuasive and as weakening any presumption of validity to the claims in the suit would otherwise attach to the Leishman Reissue Patent by reason of its issuance. This, we think, is manifestly the correct position for us to take in the light of the unanimous confirmatory decision of the Tenth Circuit Court of Appeals on rehearing as shown in the reported decision whereby it again rejected the contention that invention is found in the patent claims in controversy.

The purposes, specifications and questioned claims of the Reissue Patent No. 20,827 and of the earlier

Letters Patent No. 2,108,538 from which it originated, have been so adequately detailed and stated in the opinion of our Court of Appeals in *Leishman v. Associated Wholesale Electric Co.*, 137 F. 2d 722, that we consider repetition here [300] unnecessary.

While, as we have earlier in this memorandum observed, that our Court of Appeals has not definitely adjudicated the issue of patent validity of the claims in action before us, there are rather significant expressions in the opinion of Judge Mathews, writing for the court in *Leishman v. Associated Wholesale Electric Co.*, *supra*, that induce at least a surmise that our own Appellate Court had its misgivings as to any inventive qualities in the claims of the patent in suit that are again before this court for consideration and decision.

After quoting from the original patent, of which the one in suit is a reissue, and the several claims of the original patent (No. 2,108,538) granted February 15, 1938, the court said:

“Thus the specification of the original patent disclosed a combination comprising rockers, tappets and levers, the tappets and levers constituting what the specification calls a lever assembly; and the claims of the original patent are for combinations each of which includes a lever or levers. No leverless combination is disclosed or claimed in the original patent, nor does it appear from the face thereof that any leverless combination was intended to have been covered or secured thereby.

As stated before, the specification, the drawing

and the claims of the original patent were incorporated, without change, in the reissue patent. Claims 7-11 of the [301] reissue patent are new."

The claims here in suit are then quoted in Judge Mathews' opinion, who then for the court states:

"These claims, it will be observed, are for combinations each of which includes a rocker. Whether the combinations include tappets and levers is not clear. If they do not include levers, the claims are not for the same invention as the original patent and hence are invalid. If they do include levers, the claims are not infringed, for the accused device contains no levers."

It is not, in the light of such language, unjustifiable to infer that the court doubted the existence of invention in the provisions of the reissue patent with which we are concerned in this case.

But we are by no means left in doubt as far as decisional pronouncements of Federal courts in the Ninth Circuit are concerned as to whether the patent claims under scrutiny in light of earlier patents and the state of the applicable art should be viewed as inventive concepts.

In another division of this court and under a record not substantially unlike the one before us, Judge Harrison, in an exhaustive, analytical and reasoned written opinion, has held the same claims of the patent in suit here in controversy to be invalid. *Leishman v. Associated Wholesale Electric Company*, (36 F. Supp. 804).

If we are to accept the views of our Court of Appeals as written in the opinion on the appeal

from Judge Harrison's decision in the so-called Wholesale Electric Company appeal, *supra*, as we should and do, we find that [302] considering solely the verbiage of the patent under consideration and its precursors, it is obvious that no leverless combination is disclosed or claimed, and if we should broaden the claims as argued by the defendant upon an assumed application here of the principle of a noted decision of the Supreme Court in *Eibel Company v. Paper Company*, 261 U.S. 45, we would run counter to the rationale and controlling effect of the two decisions of our Court of Appeals in which the patent suit was involved. This we are not willing to do under the record before us. See *Leishman v. Associated Wholesale Electric Co.*, *supra*, and *Leishman v. Radio Condensor Co.*, 167 F. 2d 890, decided May 4, 1948.

We understand defendant to contend that our Court of Appeals would not have narrowed the scope of the Leishman patent in the two appeals from this court in the *Associated Wholesale Electric Co.* and *Radio Condensor Co.* cases had it known that plungers and levers had been recognized and used in radio tuners as equivalents. Such contention is groundless because there was before the court in the *Associated Wholesale Electric Co.* appeal knowledge of several combination instrumentalities such as the patents to Bast, No. 1,687,420; Faas, No. 1,928,200; and Marvin, No. 1,704,754; which were cited by the Patent Office in the Crosley patent application, the file wrapper therein having been in evidence in the

Associated Wholesale Electric Co. case before Judge Harrison. Everyone involved in the two cases was apprised that levers and plungers had been used in the prior art. What the Court of Appeals held in this connection was that the reissue claims involved in the litigation in the appeals are invalid unless they include levers as did the combination of the original patent, and that in the Leishman patented combination plungers and levers are not equivalents. It is [303] clear that to satisfy the requirements of equivalency in patent law it must be shown that the equivalent elements perform the same function and perform that function in the same or substantially the same way. *Wire Tie Machinery Co. et al., v. Pacific Box Corporation et al.*, 107 F. 2d 54 (C.C.A.).

In the Associated Wholesale Electric Co. case the Court of Appeals found neither of these requirements present. It found that the Crosley device, the accused apparatus, performed only a part of the function of the lever of the patented combination and such part was performed neither the same nor substantially the same way. That the Court of Appeals considered adequate and applicable prior art in the matter of equivalency is manifest from the record.

Moreover, we think independently that under the record before us and in the light of the teachings of the Marschalk Patent No. 2,072,897, and the Schaefer Patent No. 1,906,106, every element, feature and mode of operation of the Leishman combination in suit is anticipated. Even the heavily

relied upon characteristic of a coaxial combination in the reissue patent, if indeed such arrangement involves an inventive concept, as distinguished from a common expedient of machine design, is found in Schaefer.

It is no sufficient answer to the anticipating effect in this case of the Schaefer patent to assert that the Leishman reissue claims in suit are limited to coaxiality in connection with a rocker as distinguished from coaxiality in connection with the rack and pinion of the Schaefer or Zenith device. The function and mode of operation of the respective parts are identical and exclusively so. This Schaefer combination, according to the evidence, was incorporated in tuners made by the Zenith Radio Corporation [304] which were considered not satisfactorily marketable because of the bulkiness and unsightly appearances of the levers specified. As the tuner of the reissue patent in suit is provided with substantially the same levers, a like unsatisfactory commercial device appears to have been attained.

There was introduced at the trial of this action a model which was constructed accurately in accordance with the disclosure and claims of a patent to Cunningham, No. 1,930,192, issued October 10, 1933, which is also in evidence as Plaintiff's Exhibit 10. Dr. MacKeown, an expert witness, demonstrated that the model embodying the Cunningham apparatus exemplified coaxiality substantially identical as in the Leishman Combination and also in accordance with a written test written by de-

fendant and published and circulated to the radio industry by him as descriptive of what he claimed to be protected by his patent.

It therefore appears definitely that although it is not necessary to show complete anticipation in a single patent, this Cunningham combination, although intended for a purpose different than the Leishman patent, but in the same art of automatic shaft positioning devices, actually can and does perform and function to turn an attached condenser to bring in any radio station the same as the patent in suit and will attain the result of coaxiality in so doing in practically the same way as Leishman. Thus Cunningham clearly anticipated the Leishman claims in issue with the result of establishing lack of invention in such claims over the prior art. Cf. *General Electric Co. v. Jewel Incandescent Lamp Co., et al.*, 326 U.S. 242.

Even if we were to assume, which we cannot under the record before us, that Leishman was the first to advantageously employ the mechanical principle of coaxiality in the [305] functioning of radio tuning devices, we could not for that reason under settled standards of patent law validate the patent in suit. Such accomplishment would, we think, be nothing more than a new use, which is not per se patentable. *Cuno Corp. v. Automatic Devices Corp.*, 314 U.S. 84. See, also, *Old Town Ribbon & Carbon Co., Inc. v. Columbia Ribbon & Carbon Mfg. Co., Inc.*, 159 F.2d 379, (C.C.A.2, 1947).

Stress has been argued upon the widespread acceptance of automatic tuning devices in the radio

industry as a reason for validating the questioned claims of the patent in suit. The evidence, however, upon this phase of the case does not warrant the court in attributing such success to the disclosures of the Leishman patent. Rather are such consequences, under the record before us, probably due to independent research and experimentation in the engineering department of the Crosley Corporation. At least such was the finding of Judge Harrison in the Associated Wholesale Electric Co. case made upon the secure ground of evaluating the evidence upon this issue with the yardstick of oral testimony from the witness stand. We have not had the same opportunity in the case at bar. Under the record here, however, we can find no sufficient reason to hold differently.

Our problem in this matter, under our record, is to weigh surmise against positive evidence, and in such situation the safer guide is to reject conjecture.

There are further issues of validity urged by the plaintiff but in view of our decision that the patent claims in issue are void for the reasons stated in this memorandum, we deem it unnecessary to discuss or decide such other matters, and we likewise do not consider it [306] necessary in the light of our conclusion of patent invalidity of the claims in suit to consider or specifically decide the question of infringement by the accused devices of the plaintiff.

Summarizing our conclusions under the record before us, we find, as did Judge Harrison of this

court in *Leishman v. Associated Wholesale Electric Co.*, 36 F. Supp. 804, and as did the Court of Appeals of the Tenth Circuit in *Richards and Conover Company v. Leishman*, 172 F.2d 365, that Claims 7, 8, 9, 10 and 11 of United States Reissue Letters Patent No. 20,827 are invalid and void.

Plaintiff's attorneys will accordingly prepare, serve and file within ten days from date hereof findings of fact, conclusions of law, and declaratory judgment with costs under the pleadings and conformable to the foregoing conclusions of the court.

Dated July 29, 1949.

/s/ PAUL J. McCORMICK,
U. S. District Judge.

[Endorsed]: Filed July 29, 1949. [307]

[Title of District Court and Cause.]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This Cause having come on for trial upon the merits, and evidence having been introduced and the cause having been submitted to the Court, and the Court having rendered its decision therein,

Now, Therefore, the Court makes the following Findings of Fact and Conclusions of Law:

Findings of Fact

1.

Plaintiff, General Motors Corporation, is a Dela-

ware Corporation, having its principal place of business at Detroit, in the State of Michigan.

2.

Defendant, LeRoy J. Leishman, is a citizen of the State of California and resides in the City of Los Angeles, California, and is the owner of United States Reissue Letters Patent No. Re. 20,827. [308]

3.

Plaintiff has manufactured and sold radio tuners, exemplified by the specimen marked Exhibit 1 filed with the Complaint, and introduced in evidence as Plaintiff's Exhibit 6.

4.

Plaintiff has manufactured and sold radio tuners, exemplified by the specimen marked Exhibit 2 filed with the Complaint, and introduced in evidence as Plaintiff's Exhibit 7.

5.

Defendant, in his counterclaim filed in the instant action, has affirmatively alleged the validity of claims 7 to 11, inclusive, of said United States Reissue Letters Patent No. Re. 20,827, and has charged infringement thereof by said tuners of plaintiff, and an actual controversy exists between the parties to the instant action.

6.

United States Reissue Letters Patent No. Re. 20,827 relates to a device which operates to tune

a radio circuit upon the manual depression of a lever which causes a radio condenser shaft to assume a predetermined position. Such a tuner employs a rotatable rocker and an adjustable tappet and when these parts are in complete engagement they are substantially coaxial.

7.

The tuners of plaintiff are devices which operate to tune a radio circuit upon the translation of a push-button or plunger which causes a radio condenser shaft to assume a predetermined position. Such tuner employs a rotatable rocker and an adjustable tappet, and when these parts are in complete engagement they are substantially coaxial.

8.

Every element, feature and mode of operation of the tuner of the patent in suit is anticipated in the light of the [309] teachings of Marschalk, Patent No. 2,072,897 and Schaefer, Patent No. 1,906,106.

9.

The coaxial characteristic of the patented tuner is anticipated by said Schaefer patent, whose function and mode of operation is identical with that of the patented tuner.

10.

The tuner of the Schaefer patent No. 1,906,106, failed of commercial success because of the bulkiness and unsightly appearance of the levers speci-

fied for such tuner. The tuner of the reissue patent in suit is provided with substantially the same levers.

11.

The widespread acceptance of push-button tuners in the radio industry is not attributable to the disclosures of the patent in suit.

12.

Such widespread acceptance of push-button tuners in the radio industry is probably due to independent research and experimentation in the engineering department of The Crosley Corporation, an Ohio corporation which, prior to plaintiff, manufactured push-button tuners in the radio industry.

13.

A model constructed accurately in accordance with Cunningham, Patent No. 1,930,192, was introduced in evidence at the trial, which can and does perform and function to turn an attached condenser to bring in any radio station the same as the patent in suit and which will attain the result of coaxiality in so doing in practically the same way as the patent in suit. [310]

14.

The Cunningham patent is in the same art of automatic shaft positioning devices as is the patent in suit.

15.

The Cunningham patent clearly anticipates claims 7, 8, 9, 10 and 11 of the patent in suit, with the result of establishing lack of invention in such claims over the prior art.

16.

Were Leishman the first to advantageously employ the mechanical principle of coaxiality in the function of radio tuning devices such employment would be nothing more than a new use per se.

Conclusions of Law

1. An actual controversy exists between the parties to the instant action sufficient to bring this cause within the Declaratory Relief Act, at the time of the filing of the Complaint herein, Judicial Code 274-d, 28 U.S.C.A. §400.

2. The Court has jurisdiction of the subject matter and parties.

3. Claims 7, 8, 9, 10 and 11 of United States Reissue Letters Patent No. Re. 20,827 are invalid as anticipated by and as lacking invention over the prior art.

4. Plaintiff is entitled to a Judgment:

(a) That claims 7 to 11, inclusive, of United States Reissue Letters Patent No. Re. 20,827 are invalid;

(b) Enjoining and restraining defendant, his attorneys, agents, servants, employees, associates and confederates from asserting, contending, claim-

ing or alleging that United State Reissue Letters Patent No. Re. 20,827 has been or is being infringed by plaintiff or by the tuners manufactured, used or sold by plaintiff as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint herein; [311]

(c) Enjoining and restraining defendant, his attorneys, agents, servants, employees, associates and confederates from asserting, contending, claiming or alleging that the use and sale of tuners manufactured by plaintiff, as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint herein, has been or is an infringement of United States Reissue Letters Patent No. Re. 20,827, particularly claims 7, 8, 9, 10 or 11 thereof;

(d) Enjoining and restraining defendant, his attorneys, agents, servants, employees, associates or confederates from prosecuting any action in law or equity in which tuners manufactured by plaintiff, as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint herein, are asserted to have been or are an infringement of United States Reissue Letters Patent No. Re. 20,827, particularly claims 7, 8, 9, 10 or 11 thereof;

(e) For its costs in this action.

/s/ PAUL J. McCORMICK,
Judge.

Dated: Sept. 8, 1949.

[Lodged]: Aug. 8, 1949.

[Endorsed]: Filed Sept. 8, 1949. [312]

In the United States District Court, Southern District of California, Central Division.

Civil No. 5781-M

GENERAL MOTORS CORPORATION, a corporation,

Plaintiff,

vs.

LeROY J. LEISHMAN,

Defendant.

FINAL JUDGMENT

This Cause having come on for trial upon the merits, and evidence having been introduced and the cause having been submitted to the Court, and the Court having rendered its decision herein and having made and entered its Findings of Fact and Conclusions of Law, and being fully advised in the premises, upon consideration thereof.

It Is Hereby Ordered, Adjudged and Decreed as Follows:

I.

That claims 7, 8, 9, 10 and 11 of United States Reissue Letters Patent No. Re. 20,827 in suit are invalid as anticipated by and lacking invention over the prior art.

II.

That defendant, LeRoy J. Leishman, his attor-

neys, agents, servants, employees, associates and confederates be and they are hereby enjoined and restrained from asserting, contending, claiming or alleging that said United States Reissue [313] Letters Patent No. Re. 20,827 has been or is being infringed by the plaintiff or by the tuners manufactured, used and sold by the plaintiff, as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint here.

III.

That defendant, LeRoy J. Leishman, his attorneys, agents, servants, employees, associates and confederates be and they are hereby enjoined and restrained from asserting, contending, claiming or alleging that the use or sale of the tuners manufactured by plaintiff, as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint herein, has been or is an infringement of United States Reissue Letters Patent No. Re. 20,827, particularly claims 7, 8, 9, 10 or 11 thereof.

IV.

That said LeRoy J. Leishman, his attorneys, agents, servants, employees, associates and confederates be and they are hereby enjoined and restrained from prosecuting any action at law or equity in which tuners manufactured by plaintiff, as exemplified by the tuners marked Exhibits 1 and 2 filed with the Complaint herein, are asserted to

have been or be an infringement of United States Reissue Letters Patent No. Re. 20,827, particularly claims 7, 8, 9, 10 or 11 thereof.

V.

That a Writ of Injunction issue for the plaintiff against the defendant, LeRoy J. Leishman, his attorneys, agents, servants, employees, associates and confederates in accordance with Paragraphs II, III and IV hereof.

VI.

That plaintiff have and recover from defendant its costs in this action in the sum of [314] \$436.70 to be taxed by the Clerk.

Dated this 8th day of Sept., 1949.

/s/ PAUL J. McCORMICK,
Judge.

[Lodged]: Aug. 8, 1949.

Judgment entered Sept. 9, 1949.

Docketed Sept. 9, 1949.

Affidavit of Service by Mail attached.

[Endorsed]: Filed Sept. 8, 1949. [315]

[Title District Court and Cause.]

MOTION UNDER RULE 52b TO AMEND THE
FINDINGS, CONCLUSIONS AND JUDG-
MENT, AND MOTION FOR A NEW TRIAL
UNDER RULE 59.

Now Comes the defendant, LeRoy J. Leishman, and moves that this Honorable Court amend its Findings, Conclusions and Judgment under Rule 52b FRCP in the manner hereinafter set forth. Defendant also moves under Rule 59 FRCP that a new trial be held to permit the defendant to introduce evidence in refutation of the new grounds which the Court of Appeals of the Tenth Circuit advanced against the patent in suit after the records were closed in the instant case and in the Tenth Circuit case of *The Richards and Conover Co. v. LeRoy J. [317] Leishman*, Appeal No. 3577, November Term 1948. Inasmuch as this Honorable Court's opinion has in effect accepted these new grounds as persuasive herein, it is important that defendant be given an opportunity to present evidence to refute them. Otherwise he loses in both courts on newly advanced grounds on which he has not been heard.

Of course, if the motion is granted to amend the Findings, Conclusion and Judgment as hereinafter set forth, there will be no occasion under Rule 59 for a new trial.

The particulars in which defendant moves this Honorable Court to amend its Findings, Conclusions and Judgment, are as follows:

In Finding of Fact 6, change line 18, page 2 to read: —the depression of a manually operable member which causes a radio condenser—.

Strike out Findings 8, 9 and 10 for the reasons discussed in the accompanying memorandum.

Strike out Finding 11 and substitute Finding 29 for the reasons set forth in the memorandum. Finding 29 appears in its proper numerical order with the other proposed new findings.

Strike out original Finding 12 and substitute new Finding 25, which appears with the other new findings in proper numerical position. The reasons for requesting this change are also set forth in the memorandum.

Strike out original Finding 20 and substitute new Finding 31, *infra*. The memorandum also sets forth why this change must be made in the interest of accuracy.

Change Finding 14 to read as Finding 32, *infra*.

Strike out Findings 15 and 16 for the reasons discussed in the memorandum.

In order that the Conclusions and Judgment may be in harmony with the correct findings, defendant moves that the new Conclusions and Judgment, submitted herewith following the new findings, be substituted [318] in lieu of the original Conclusions and Judgment.

Re: The Affidavits Filed Herewith In Support
of Defendant's Motion for a New Trial

The accompanying affidavits are filed in support

of defendant's motion for a new trial, the reasons for which are discussed in the accompanying memorandum.

Proposed New Findings

9. The device of the patent in suit belongs to a general class of apparatus in which a rotatable element is returned to a predetermined angular position by means of a positioning element, or tappet.

10. In cash registers and adding machines, fixed tappets have been used for turning rotatable elements to ten different angular positions corresponding to 0 and the digits from 1 to 9. Prior art devices of this type are exemplified in the Woodbridge patent No. 585,996, in which the tappets are formed at respectively different angles on the manual operating numbers, as shown in Figs 1 and 10.

11. For radio sets, fixed tappets as in the prior art would require a different operating member for each of the hundreds of broadcasting stations. As a consequence, it was necessary to provide means whereby the user could easily and readily adjust the tappets for the particular stations required. The difficulty encountered in providing such means is well demonstrated in the mechanism shown in Fig. 14 of the Marschalk patent No. 2,072,897, exemplified by Defendant's Exhibit E, in which the engagement of the loosened tappet with the tilted rocker causes undesired rotation, or "creeping" during the adjusting or "setting" process.

12. Before the teachings of the patent in suit became available to the radio industry, various inventors of adjustable tappet tuners [319] eliminated the creeping difficulty by the introduction of many extra parts or by the use of complicated or tedious methods of adjustment.

13. The prior art tuner disclosed in the Schaefer patent No. 1,906,106 and used in radio sets of the Zenith Corporation for about two years, circumvented the creeping difficulty by the introduction of ten moving parts between the tappet and the rotatable element. These ten intervening parts required eight guides.

14. Soffietti in Italy (U. S. patent No. 2,388,581, Fig. 6) avoided the creeping difficulty by the use of two tappets that were very tedious to adjust.

15. Lane & Mackey in the United States (application Ser. No. 117,163, Def. Exs. K and K-1) avoided creeping by the introduction of extra parts and by the use of a tedious method of adjustment.

16. The Delco Radio Division of General Motors Corporation, the plaintiff herein, began work on a mechanical push button tuner in the latter part of 1936 or the first part of 1937, with full knowledge of the Schaefer tuner. Delco engineers developed an adjustable tappet tuner which had two racks operatively interposed between each tappet and the rotatable element. A five button tuner of this type contained ten such racks. This General Motors tuner (Plaintiff's Ex. 3) was placed on the market

in 1938. Between 1936 and 1938 when the Ex. 3 tuner was introduced, design work on automatic tuners was carried on at the Delco Radio Division of General Motors by James G. Funk, Howard M. Stelzl, William C. DeRoo, Raymond A. Shuttleworth and Bertram Schwarz.

17. The Crosley Corporation began work on a push button tuning device early in '37 or the winter of '36 with full knowledge of the Zenith-Schaefer tuner. Johnston, Kellogg, Tyzzer and Kilgour were all connected with this research, but as late as October, 1937, nothing satisfactory had been developed.

18. Defendant solved the problem of creeping and made tuners easy to adjust without adding any extra parts whatever. He did this by shaping the tappet and rocker with respect to each other so that one could nest within the other, and by providing a coaxial relationship between the rotational axis of the tappet and the rotational axis of the rocker in the fully engaged position.

19. Plaintiff presented no example of a previous use of a coaxial relationship for the prevention of rotation, and Plaintiff's expert Schwarz stated on cross-examination that he knew of no instance in which a coaxial relationship had previously been used for such purpose, (R. 433-434).

20. Defendant's simple solution of the creeping problem was not apparent to any of the many engineers and skilled workers in the automatic tuning art before his teachings became available, these

engineers having resorted to more complicated solutions.

21. Knowledge of defendant's structure first became available to the public through the file wrapper of his patent No. 2,084,851, which issued from the same parent application as the patent in suit. Copies of this parent file wrapper were obtainable by the public at any time after June 22, 1937, when patent No. 2,084,851 was granted.

22. On October 25, 1937, the patent law firm of Allen and Allen wrote defendant that it had been asked by Mr. Johnston, chief engineer of the Crosley Corporation, to investigate defendant's patent No. 2,084,851, the file wrapper of which disclosed defendant's coaxial rocker and tappet construction. (Def. Ex. AA.)

23. In October, 1937, the Crosley Corporation abandoned the plunger-operated Kellog tuner which it had hoped to put in production (R. 517). This tuner did not work out properly and the Corporation switched over to a structure embodying a coaxial rocker and tappet (R. 517) as taught in the file wrapper of Leishman's patent No. 2,084,851, from which the subject matter of the patent in suit was divided. (Def. Ex. O, p. 29.)

24. In January or February, 1938, the Crosley Corporation placed radio sets upon the market containing plunger-operated tuners [321] embodying coaxial tappets and rockers (R. 92).

25. The commercial success of the Crosley plun-

ger-operated tuners using the coaxial rocker and tappet construction cannot be attributed to the plungers, because plunger-operated tuners were old and the Crosley Corporation did not achieve success with them until it added the coaxial rocker and tappet construction taught by the patent in suit.

26. Beginning in 1938, numerous other manufacturers placed sets upon the market containing coaxial rocker and tappet tuners.

27. The Zenith Corporation, which abandoned the Schaefer tuner having ten intervening parts between the tappet and rotatable element, subsequently used coaxial rocker and tappet tuners made by a licensee under the patent here in suit (Def. FF). It later experimented with tuners of other types, but in May, 1948, it announced that it was changing to another kind which it found more reliable (Def. Ex. FFF). This more reliable kind, of which a sample is in evidence as Def. Ex. GGG, is of the coaxial rocker and tappet construction.

28. The Delco Radio Division of General Motors Corporation, the plaintiff herein, manufactured tuners of its own design (P. Ex. 3) having two racks operatively interposed between each tappet and the rotatable element. It later abandoned this structure and adopted the coaxial tappet and rocker structure. Plaintiff's expert Schwarz admitted that General Motors had used approximately one million coaxial tappet and rocker tuners up to the time of the trial (R. 416).

29. In automobiles that were being manufactured at the time of the trial, the push button tuners that embodied the teachings of the patent in suit far outnumbered all others, the coaxial rocker and tappet construction being used in all factory equipped automobiles excepting Studebaker, Packard, and certain models in the Chrysler line (R. 400 et seq.).

30. Coaxial rocker and tappet tuners have been used in many [322] models of household sets (R. 679 et seq.), and at the time of the trial they were used in frequency modulation sets (R. 677 et seq.), where the accuracy required is very high (R. 323).

31. At the trial, plaintiff introduced a model purporting to show that the mechanism of the Cunningham patent No. 1,930,192 could be used to function as an automatic tuner in the same way as the patent in suit; but this model contained substantial modifications and even then could not be made to function for any of the purposes of an automatic tuner without departing from its original mode of operation.

32. The allegedly anticipating Cunningham patent pertains to a device for making a record on a chart of the quantity of gas in a container. Cunningham's device contains a rocker attached to a recording pen, and the rocker is positioned by a tappet-like member which is readjusted at regular intervals, while disengaged from the rocker, to correspond to the height of a float in the gas chamber. When in contact with the rocker, the tappet-like

member is always locked against rotation and it is never adjusted by the rocker. The "creeping" difficulty encountered in automatic tuners where the freely pivoted tappet must be adjusted by the rocker is thus never encountered in a device such as Cunningham's, and his device therefore cannot properly be urged as one that solved a problem analogous to that which was overcome by the structure of the patent in suit.

33. The specification and drawings of defendant's original patent No. 2,108,538 and of his re-issue patent in suit are identical. The purpose of the coaxial relationship between the tappet and rocker is to make the tuner easy to adjust, and this object was set forth in both the original and re-issue patents (p. 1, column 1, lines 30-31). Structural features which plaintiff's expert Mackeown admitted were necessary for the coaxial relationship, were set forth in claims of both the original and re-issue patents. The re-issue [323] patent is thus for the same invention as the original patent.

34. The disclaimers limit the respective claims to a specific class of the general class to which they apply and conform to the disclaimer formula set forth by the Supreme Court in footnote 2, page 490, of its decision in *Altoona Publix Theatres v. American Tri-Ergon Corp.* 294 U. S. 477.

35. The evidence shows that the essence of defendant's invention is in the rocker and tappet and the coaxial relationship between their axes of rotation and not in the manual operating means.

36. Evidence introduced for the first time in this circuit shows that it is immaterial to the operation of the tappet and rocker whether the tappet is moved by a lever, plunger, or some other means, and that the direction of movement of the tappet toward the rocker is likewise immaterial.

37. Plaintiff introduced no evidence or testimony to rebut defendant's evidence that plungers and levers are equivalents for the operation of his combination. On the other hand, plaintiff admitted in its briefs that it is immaterial whether the Schaefer tuner is operated by plungers or levers, and plaintiff was unable to advance any mechanical reason why the same would not be true of Leishman's combination.

38. The portion 57 on which the tappet is mounted in the device of the patent in suit is a plunger. The original patent thus disclosed the use of a plunger. No evidence that this was a plunger was introduced in the Associated case.

39. Plaintiff's Ex. 6 tuner is operated by short levers and contains a coaxial rocker and tappet. This tuner responds to the claims at issue and is an infringement thereof.

40. Plaintiff's Ex. 7 tuner responds to the claims at issue and is an infringement thereof. [324]

Re: Conclusions of Law

Original Conclusion 3 should be changed to read:

3. Claims 7, 8, 9, 10 and 11 of United States

Reissue Letters Patent No. Re. 20,827 are valid.

The balance of the conclusions should be stricken out and the following substituted:

4. The reissue patent No. 20,827 and especially claims 7, 8, 9, 10 and 11 thereof, are for the same invention as original patent No. 2,108,538,

5. The reissue patent No. 20,827 conforms in all respects with the requirements of Section 4916 of the Revised Statutes relating to re-issues.

6. The disclaims filed by plaintiff with respect to reissue patent No. 20,827 are in conformity with Section 4917 of the Revised Statutes.

7. Plaintiff has infringed claims 7, 8, 9, 10 and 11 of reissue patent No. 20,827 by the manufacture and sale of tuners exemplified by those introduced in evidence as Plaintiff's Exhibits 6 and 7.

8. Defendant is entitled to a Judgment:

(a) That claims 7 to 11, inclusive, of United States Reissue Letters Patent No. Re. 20,827 are valid;

(b) That claims 7 to 11, inclusive, of United States Letters Patent have been infringed by the plaintiff through its manufacture and sale of tuners exemplified by those introduced in evidence as Plaintiff's Exhibits 6 and 7.

(c) That a perpetual injunction issue forthwith against the plaintiff General Motors Corporation, its officers, agents, servants, and employees, restrain-

ing them from directly or indirectly making or causing to be made, selling or causing to be sold, or using or causing to be used, any tuners for radio sets made in accordance with or embodying the inventions set forth in claims 7, 8, 9, 10 and 11 of said United States reissue patent No. Re. 20,827, and as exemplified in plaintiff's exhibits introduced at the trial as Plaintiff's Exhibits 6 and 7.

(d) That defendant recover from the plaintiff, General Motors Corporation, the damages which defendant has suffered and the profits which the plaintiff has made by reason of its infringement of said Reissue Letters Patent No. 20,827 and that this cause be referred to a special master to take and report an account of such profits and damages, and that the plaintiff, its officers, agents, servants, and employees, be required to attend before said master from time to time as he shall direct, and to produce before him all such books, papers, vouchers, documents and devices as he may require, and to submit to such oral examination as he may direct.

(e) That the defendant recover from the plaintiff his costs and disbursements of this suit to be taxed by the clerk, and that defendant have execution, therefore, against the said defendant.

(f) That the judgment be amended in conformity herewith.

Respectfully submitted,

/s/ JOHN FLAM,

Attorney for Defendant. [326]

[Title of District Court and Cause.]

NOTICE OF HEARING

Please Take Notice that the undersigned will bring on for hearing before the above Court in its Courtroom in the Federal Building, Los Angeles, California, on Monday the 3rd day of October, 1949, at 10 a.m. o'clock, or as soon thereafter as counsel may be heard, the defendant's Motion under Rule 52(b) F.R.C.P. and under Rule 59, F.R.C.P.

/s/ JOHN FLAM,

Attorney for Defendant.

[Title of District Court and Cause.]

AFFIDAVIT OF ROBERT L. DAUGHERTY
ON BEHALF OF DEFENDANT

State of California,
County of Los Angeles—ss.

Robert L. Daugherty, being duly sworn, deposes and says as follows:

He resides in Pasadena, California, and is Professor of Mechanical Engineering at California Institute of Technology, which position he has held since 1919.

He graduated from Stanford University in 1909, where he was an instructor in Mechanical Engineering from 1909 until 1910. From 1910 until 1916

he was Assistant Professor of Mechanical Engineering at Cornell University, and he was Professor of Mechanical Engineering at Rensselaer Polytechnic Institute from 1916 until 1919. [328]

He is a Registered Professional Mechanical Engineer in the state of California, and from 1929 until 1930 he was Vice-President of the American Society of Mechanical Engineers. He is the author of several books on technical subjects published by McGraw-Hill Book Company.

He has examined Figs. 1 and 2 of the Opinion on Rehearing rendered on January 20, 1949, by the United States Court of Appeals for the Tenth Circuit in the case of *The Richards and Conover Company vs. LeRoy J. Leishman*, and he has carefully read the said opinion which makes reference to these figures.

The said figures are valueless as a basis for any kind of an analysis. Fig. 2 shows a rocker I and a triangle or tappet J. The triangle in Fig. 1, however, is not the same as in Fig. 2. The discrepancies are very great. The triangle in Fig. 1 is much taller than the triangle in Fig. 2. But the most serious error is in the position of the pivot A. The distance of the pivot A, taken at right angles to the base of triangle, should of course be exactly the same in both figures; but in Fig. 1 the pivot is shown approximately 85% further away from the base of the triangle than it is in Fig. 2. Figure 1 thus gives an entirely erroneous impression of the distance between pivots A and D when

the rocker I is tilted to the angular position shown in Fig. 1. Such figures would mislead anyone attempting to base calculations upon them.

Reference is now made to the following paragraph from the said opinion as applied to the aforementioned figures:

“When the rocker and the tappet are positioned as in figure 1, the distance from pin A to point B on the upper face of the rocker is greater than the distance from pin A to the point on edge C of the upper face of the rocker where the base of the tappet intersects such edge, referred to hereinafter as point O. And the distance from [329] the axis of the rocker shafts to the point on edge C of the upper face of rocker where the base of the tappet intersects such edge, referred to hereinafter as point P, is greater than the distance between such axis to point B. Hence, the lever from point P to the axis of the rocker shafts is longer than the lever from point O to pin A. As a result, when force is exerted by downward pressure of the lever H through the tappet upon the face of the rocker, the downward force at point O has the advantage of greater leverage than the downward force at point B, and the resisting force of the rocker at point B has the advantage of greater leverage than the resisting force of the rocker at point O.”

The author of the foregoing quoted paragraph had an entirely erroneous conception of levers or lever arms. The distance from point B to pin A in these figures does not represent the “lever” or

lever arm of the downward force at point B, and the distance from point O to pin A has nothing to do with the leverage of the downward force at point O. The lever, or lever arm, of any force is the perpendicular distance from the line of action of the force to the axis or fulcrum—that is, the distance at right angles to the force. The distance from the fulcrum or axis to the point where the force is applied, has nothing whatever to do with the leverage or turning effect of the force. Beginners in the study of mechanics must frequently be cautioned against this error. [330]

The theory of levers is explained on page 8 of *Applied Mechanics*, a text book written by Housner and Hudson of the Division of Engineering of California Institute of Technology. This is a recent text published in 1949 by D. Van Nostrand Co., Inc., of New York and London.

/s/ ROBERT L. DAUGHERTY.

Subscribed and sworn to before me this 17th day of September, 1949.

[Seal] /s/ NELLIE E. ADKINS,

Notary Public in and for the County of Los Angeles, State of California.

My Commission Expires March 9, 1952.

[Seal]: No. 514, Robert L. Daugherty, Mechanical, Registered Professional Engineer, California.

[Title of District Court and Cause.]

AFFIDAVIT OF JOHN W. HAZEN
ON BEHALF OF DEFENDANT

State of California,
County of Los Angeles—ss.

John W. Hazen, being duly sworn, deposes and says as follows:

He is a resident of Los Angeles, California, and since April, 1945, has been in charge of Engineering Research, Department of Engineering, at the University of California at Los Angeles. He received a Bachelor of Science degree in Mechanical Engineering and in Electrical Engineering at the University of California in 1923, where he had the highest honors in his class. In 1924 he received the degree of Master of Science in Mechanical Engineering from the same institution and is a member of Eta Kappa Nu and Sigma XI, and he is also a member of various [332] scientific societies, including the American Society of Mechanical Engineers.

He is also a member of the Engineers' Council for Professional Development where he is on the subcommittee for the Western Region. (This council is the National Accrediting Agency for Engineering Schools in the United States and Canada.)

From 1923 to 1924 he was employed by the Standard Oil Company of California. His duties in this capacity were to perform professional engineering work and supervise technicians.

From 1924 to 1925 he was an electrical engineer for the Pacific Gas and Electric Company of California.

From 1925 to 1927 he was again employed by the Standard Oil Company of California as a mechanical and electrical engineer, where his duties again included professional engineering work and the supervision of technicians.

From 1927 to 1928 he was District Engineer, doing professional engineering work and supervising technicians for the California Petroleum Corporation.

From 1928 to 1930 he taught engineering at San Bernardino Junior College, where he was head of the Department of Engineering and Mathematics from 1928 to 1930. From 1930 to 1935 he taught engineering at Los Angeles City College; from 1935 to 1943 he was in charge of Mechanical Engineering at the same institution.

From 1943 to 1945 he was Assistant Chief Engineer and Factory Manager at Los Angeles and Piqua, Ohio, for Lear, Inc. This company employs about five thousand (5000) people and there are from one hundred to two hundred (100 to 200) people in its research and development organization, where he did research and Development Engineering and supervision.

Since April, 1945, he has held his present position as Research Engineer in Charge of Engineering Research in the Department [333] of Engineering at the University of California at Los Angeles, where he is also a lecturer in Engineering.

He has read the Opinion on Rehearing rendered January 20, 1949, by the United States Court of Appeals for the Tenth Circuit in the case of The Richards and Conover Company vs. LeRoy J. Leishman. He has also read the patents relating to the devices discussed in the said decision.

The discussion in the decision and Figs. 1 and 2 thereof purport to show that a skilled mechanic would reason as outlined in the said discussion and thus be led to a solution of the problem of "creeping" which had made the Marschalk device difficult to adjust.

Actually the figures are incorrectly drawn, as identical parts are drawn with different dimensions in the two positions, thus tending to confuse the thinking about the actions of the mechanism. Furthermore, both the figures and the discussion disclose a confused and inaccurate understanding of the principles of the science of Mechanics. Dimensions which are of no consequence in the action of the device are alluded to as lever arms for forces that are not described and which, in the actual device pictured, would not act at the points nor in the manner ascribed in the discussion.

Many individual statements could be criticized as inaccurate and almost without meaning in the sense of an analysis of a mechanism. Nowhere in the discussion is disclosed a clear understanding of the principle and embodiment whose conception was necessary to prevent "creeping."

/s/ JOHN W. HAZEN.

Subscribed and sworn to before me this 18th day of September, 1949.

[Seal] /s/ LILLIAN B. SHAW,
Notary Public in and for the County of Los Angeles, State of California.

My Commission Expires Nov. 1, 1950. [334]

[Title of District Court and Cause.]

AFFIDAVIT OF SIDNEY F. DUNCAN
ON BEHALF OF DEFENDANT

State of California,
County of Los Angeles—ss.

Sydney F. Duncan, being duly sworn, deposes and says as follows:

I am a resident of Los Angeles and Professor of Mechanical Engineering at the University of Southern California, where I have been head of the Mechanical Engineering Department since September, 1948.

I received a Bachelor of Science degree in Mechanical Engineering from California Institute of Technology in 1924, and from the same Institute I received a Bachelor of Science degree in Electrical Engineering in 1925 and a degree of Master of Science in Mechanical Engineering in 1939. [335]

I have been at various times a consultant to Farr Company and Gilfillan Bros., Inc., both of Los Angeles. I am a member of the American Society of

Mechanical Engineers, The American Society of Metals, and am an active member of Sigma XI (honorary for research). I am also an Honorary Member of Tau Beta Pi and Pi Tau Sigma, both of which are national scholarship societies for Mechanical Engineering students.

I have had twenty years teaching experience at the University of Southern California, where I have taught various subjects including courses in Analytical Mechanics, Strength of Materials, Mechanism and Kinematics of Machinery and Machine Design.

On September 16, 1949, Mr. LeRoy J. Leishman of Los Angeles, Calif., presented me with a copy of the decision rendered by the United States Court of Appeals, Tenth Circuit, in the case of The Richards and Conover Company vs. Leishman, designated as case No. 3577, November Term, 1948. With this document he provided me with copies of patents and other pertinent papers and records bearing on the case in which the decision referred to was rendered. Mr. Leishman requested that I study the decision and other documents with a view to expressing an expert opinion on the correctness of the analysis of the action of the mechanism shown as Figs. 1 and 2 of the decision referred to. I have studied the various documents and the decision and have formed an opinion which is stated below.

Referring to Figs. 1 and 2 of the decision it is obvious to me as an engineer that an error in drawing the tappet J in its two positions, along with im-

perfect understanding of the laws of mechanics as taught in all schools and colleges of Engineering, led to a line of reasoning which contributed to the decision rendered by the Court. The error in drawing is apparent to the naked eye and is that the distance from point A to side BC of the tappet J is considerably different in Fig. 1 from what it is in [336] Fig. 2. This change in the location of point A on the tappet J would indicate a change in the physical dimensions of the corresponding part in an actual mechanism. Unless such change in dimension actually occurs, conclusions based on the two figures referred to could not be properly applied to the actual mechanism, in this case a tuner. The error in drawing the tappet in its two positions could have led to the statement in the decision that “—since, when the pin A approaches substantial coaxiality with the rocker shafts, creeping disappears, it is obvious that the problem can be solved by substantial coaxiality between pin A and the axis of the rocker shafts, when the tappet is in full engagement with the rocker.”

The Court's analysis of the lever system purported to be shown by Figs. 1 and 2 of the decision is the result of first, an imperfect understanding of the basic laws governing levers and second, the singular shapes accidentally or intentionally chosen by the draughtsman who drew the figures. It is a well known principle, as evidenced by the wide adoption of such text books as

1. Analytical Mechanics for Engineers by Seely and Ensign (John Wiley and Sons).
2. Kinematics of Machines by Guillet (John Wiley and Sons).
3. Elements of Mechanism by Schawb, Merrill & James, 6th Ed. Revised by Doughtie (John Wiley and Sons).
4. Kinematics of Machinery by Albert & Rogers (John Wiley and Sons).

that only the contour of contacting surfaces of interacting parts of a mechanism and not the shape of the rest of the contacting parts determines the transmittal of forces and any tendencies toward relative motion. Thus in Figs. 1 and 2 of the decision the tappet J was uniquely drawn as a triangle of a certain shape and size. In the decision, reliance appears to have been placed on the position of vertex G, Fig. 1, in the sentence which reads, [337] "And when the rocker and tappet are positioned as in Fig. 1, the vertex G of the tappet, instead of being approximately at the line XY, as in Fig. 2, is to the left of such line—". Since the vertex G referred to has no functional contact with the rocker, I, Figs. 1 and 2, its location in space cannot influence the relative motion of the rocker and tappet.

Referring again to the principle enunciated in the paragraph above and Figs. 1 and 2 of the decision, the reasoning applied to the supposed lever arms from points P and B to the axis of the rocker shaft

and points B and A to pin A is, though erroneous, a direct result of the accidental choice of the relative lengths of the contacting faces of the rocker and tappet. If the tappet face had been drawn longer it could have overlapped the rocker face in both positions and the limits of contact on the rocker face would have been from edge E to edge C (Figs. 1 and 2 of the decision) for all usual positions of the rocker. Such a change in the drawing would not affect the operating principle of the mechanism or its tendency to creep. By similar reasoning the rocker face, though overlapping both edges of the tappet face at all times would not affect the operation of the mechanism but would have required different statements to be made in the decision relative to the supposed lever arms referred to above.

The reference by the Court to such distances as "the lever from P to the axis of the rocker shafts" and "the lever from point B to such axis" must have been prompted by incorrect information or an imperfect knowledge and understanding of the fundamental laws of analytical mechanics.

A correct analysis of the creeping tendency of the mechanism shown in Figs. 1 and 2 of the decision will show that the face of the rocker will always tend to be perpendicular to the straight line joining the axis of the rocker shaft (point D [338] Figs. 1 and 2 of the decision) and point A. This tendency will exist for an infinite number of relative locations of points D and A referred to above. The ordinary mechanic could then conclude that a more

complicated mechanism was necessary. Inspiration would, in my opinion, be necessary to first discover that coaxiality of points A and D (referred to above) when the tappet and rocker faces were in contact would eliminate the tendency to creep.

/s/ SYDNEY F. DUNCAN.

Subscribed and sworn to before me this 18th day of September, 1949.

[Seal] /s/ LILLIAN B. SHAW,
Notary Public in and for the County of Los Angeles, State of California.

My Commission Expires Nov. 1, 1950.

[Seal]: No. 998, S. F. Duncan, mechanical Registered Professional Engineer, California. [339]

[Title of District Court and Cause.]

AFFIDAVIT OF A. PAUL SORBER
ON BEHALF OF DEFENDANT

State of California,
County of Los Angeles—ss.

A. Paul Sorber, being duly sworn, deposes and says as follows:

He is a resident of Los Angeles, California. He received his scientific training at the University of Washington, the University of California at Los Angeles, and the University of Southern California. He is now in his twentieth year of teaching scientific

subjects in the Los Angeles school system. During a leave of absence from the Los Angeles City Schools, he spent two years training Western Electric Company field engineers for radar work in connection with World War II. For another period of two years he taught an off-campus course for the California Institute of Technology. He is at present teaching mechanical drafting at the Los Angeles Polytechnic High School.

In addition to mechanical drafting he has also taught machine shop work, together with supplementary science and mathematics. In these scientific courses in the Los Angeles High School system, he has taught the principles of levers, lever arms, and moments of forces. These principles are explained in the reference and text books used for these high school courses, which include Machinery's Hand Book, published by The Industrial Press, N. Y., 1941, p. 283. (This book is often referred to as the mechanic's bible''); Elements of Mechanism by Schawb, Merrill & James, published by John Wiley and Sons, Inc., New York, published 1921, p. 20.

He has examined Figs. 1 and 2 of the Opinion on Rehearing rendered on January 20, 1949, by the United States Court of Appeals for the Tenth Circuit in the case of The Richards and Conover Company vs. LeRoy J. Leishman. Photostatic copies of these figures are attached to, and made a part of, this affidavit.

Fig. 2 represents a triangle or tappet J carried

by a lever H, the tappet being pivoted to said lever at point A. Fig. 2 shows this tappet in engagement with a horizontally positioned rocker I. In Fig. 1 the same rocker I is shown tilted to an angular position. The tappet J of Fig. 1, however, does not show how the tappet J of Fig. 2 would appear if the rocker were tilted to the position shown in Fig. 1. It is common practice in mechanical work to make mechanical drawings to ascertain how parts of a machine will appear at different times and in different positions during the operation of the machine, but such drawings are entirely valueless for this purpose unless the parts are drawn accurately. The tappet J of Fig. 1 is very much bigger, particularly in height, than the tappet J of Fig. 2. [341]

Moreover, the pivot A of the tappet in Fig. 1 is arranged in a different place on this tappet than is the pivot A on the tappet J of Fig. 2. Had the tappet been properly drawn in Fig. 1 the pivot A would be exactly the same distance from the lower edge of the tappet as in Fig. 2. The tappet, of course, cannot change its shape or physical dimensions in moving from one angular position to another. In Fig. 1 the tappet has been placed about 85% further from the base of the tappet than in Fig. 2. This is a very grave error and renders these drawing worse than useless for any analytical purpose. They are worse than useless because they give an entirely misleading impression of the relative position of the axes A and D in Fig. 1 as compared with Fig. 2.

I have redrawn the tappet J, rocker I and lever H as they would appear when the rocker is tilted to the angular position shown in Fig. 1. A reproduction of this figure is attached hereto and is designated Fig. M. Any student who is familiar with the elementary principles of mechanical drafting would draw the figure in this manner. In Fig. M the tappet, rocker and lever are made the same size and of the same dimensions as the corresponding parts in Fig. 2 so that they accurately represent how the parts of Fig. 2 would appear when the rocker I is tilted to the angular position shown in Fig. 1.

I have measured the distance between the axes A and D in Fig. 2, as well as the distance between the axes A and D in Fig. M, and I find that the separation of the axes, when properly drawn as in Fig. M, is less than 1/64 of an inch greater than in Fig. 2. The axes are thus about 5% further apart in Fig. M than they are in Fig. 2; but in Fig. 1 they have been improperly represented as being separated by a distance approximately 85% greater than in Fig. 2, which is a serious misrepresentation of the true facts.

Reference is now made to the following quotation from the aforementioned opinion of the United States Court of Appeals for [342] the Tenth Circuit:

“When the rocker and the tappet are positioned as in Figure 1, the distance from pin A to point B on the upper face of the rocker is greater than the distance from pin A to the point on edge C of

the upper face of the rocker where the base of the tappet intersects such edge, referred to hereinafter as point O. And the distance from the axis of the rocker shafts to the point on edge C of the upper face of the rocker where the base of the tappet intersects such edge, referred to hereinafter as point P, is greater than the distance from such axis to point B. Hence, the lever from point P to the axis of the rocker shafts is longer than the lever from point B to such axis, and the level from point B to pin A is longer than the lever from point O to pin A. As a result, when force is exerted by downward pressure of the lever H through the tappet upon the face of the rocker, the downward force at point O has the advantage of greater leverage than the downward force at point B, and the resisting force of the rocker at point B has the advantage of greater leverage than the resisting force of the rocker at point O."

The author of the foregoing paragraph had an entirely erroneous conception of levers and lever arms. The correct principles of lever arms are taught to science students in high schools, and these principles are contrary to the view held by the author of the above quoted paragraph. The distance from point B to pin A in Figs. 1 and 2 does not represent the "lever" or lever arms of any of the forces applied. The distance from the point B to the axis D of the rocker is likewise not a correct lever arm. The aforequoted paragraph makes reference to the distances from the axes of

the rocker and tappet to the points where these members engage on the right of these axes, but none [343] of these distances referred to in the said paragraph is a true lever arm. The lever, or lever arm, of any force is the distance from the axis or fulcrum to the line of the force, taken at right angles to the line of the force.

I have attached hereto a reproduction of page 20 from the text, *Elements of Mechanism*, mentioned on page 2 of this affidavit. The scientifically accepted and verified principles of levers, as explained on the said page 20, is illustrated thereon by Figs. 23 and 24. These figures graphically show that the distance from the pivot to the point where the force is applied, is not the thing that determines the turning effect of the force. The physical levers are shown in full lines in these figures, but the actual lever arms of the forces applied are represented by the lines from M to C and from N to C in each of the figures. These lever arms in this case are thus much shorter than the distances from the pivots to the points where the forces are applied, and are the same as they would be for the much shorter physical levers shown in dotted lines if the latter were positioned as shown.

The errors in the conception of levers and leverage in the forequoted paragraph from the opinion of the Court of Appeals for the Tenth Circuit, are common errors among students who are just beginning the study of mechanics. Sometimes the actual length of a lever arm is only a small fraction of the

distance from the axis to the point where the force is applied, and no helpful information whatever as to leverages can be gained by a mere consideration of the distance from a point where force is applied to the axis of the member against which such force is directed.

Dated September 17, 1949.

/s/ A. PAUL SORBER.

Subscribed and sworn to before me this 17th day of September, 1949.

[Seal] /s/ JESSE S. NEWTON,
Notary Public in and for the County of Los Angeles, State of California.

My Commission Expires October 22, 1951. [344]

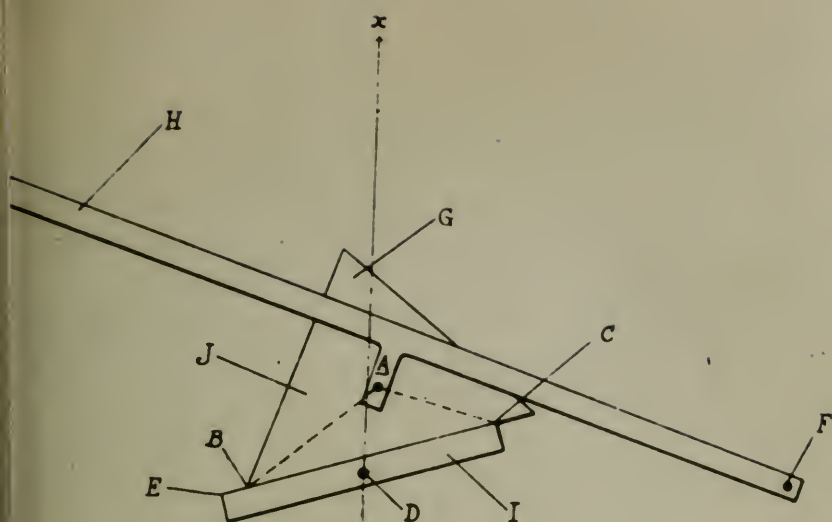


Fig. - 1

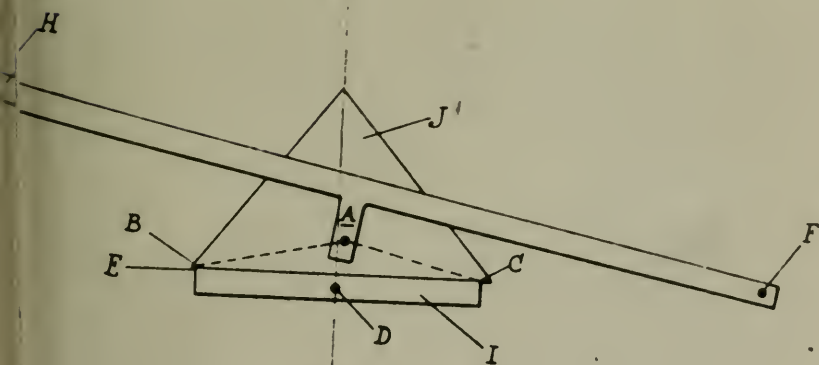
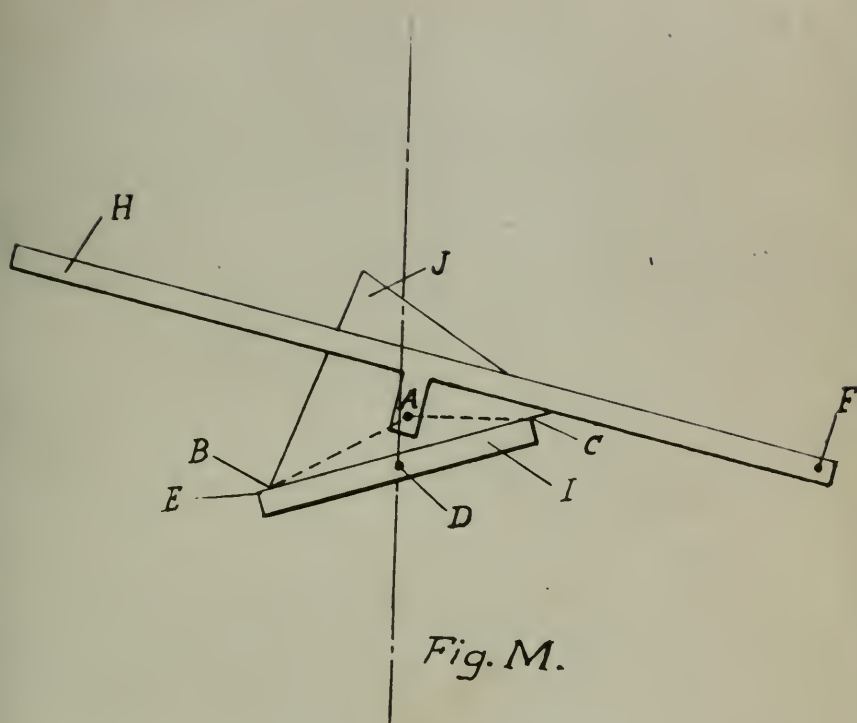


Fig. - 2



BD be the line along which B is to give motion and AD the line along which A is to give motion. Let BD lie in the plane XY and AD lie in the plane VW . To find the position of the line DC which is the trace of the plane containing the axis of the shaft, assume the plane VW to be moved to the left until it coincides with XY . Then lay out the

lever in the left elevation as described for Fig. 20. Next assume the plane VW moved back to its proper position, carrying the arm CA with it.

43. Effective Lever Arms. In the case of a lever in a position

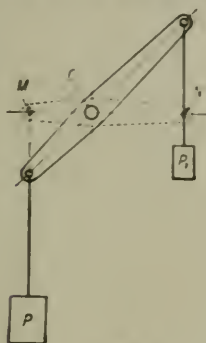


FIG. 23

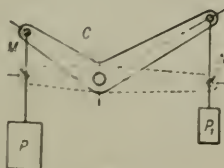


FIG. 24

such as indicated in Figs. 23 or 24, the effect is the same, for the instant, as if the weights P and P_1 were attached to the lever MCN , whose arms are found by drawing perpendiculars from the axis C to the line of action of the forces exerted by the weights P and P_1 . The perpendiculars CM and CN may be called the **effective lever arms** or **moment arms** of the weights.

[Title of District Court and Cause.]

AFFIDAVIT OF EARDLEY B. MADSEN
ON BEHALF OF DEFENDANT

State of California,
County of Los Angeles—ss.

Eardley B. Madsen, being duly sworn, deposes and says as follows:

He is a resident of Los Angeles and at present an instructor in physics and chemistry at the John H. Francis Polytechnic High School. He has a degree of Master of Science from Brigham Young University, Provo, Utah, and has taken post graduate work at the U. S. Agricultural College of Utah.

He taught physics for eleven years in the State of Utah before coming to California and since then has taught chemistry for one year in Inglewood. He has been an instructor at the [348] John H. Francis Polytechnic High School for a period of four years.

The courses that he has taught in physics have included the theory of levers, lever arms, and moments of forces. The courses in physics that he is at present teaching include instruction in these principles. The text book which his physics classes are now using is Modern Physics by Charles E. Dull. The correct principles of levers is explained in paragraph 144 on pages 124 and 125 of this text.

He has examined Figs. 1 and 2 of the Opinion on Rehearing rendered on January 20, 1949, by the United States Court of Appeals for the Tenth Cir-

cuit in the case of The Richards and Conover Company vs. LeRoy J. Leishman. Photostatic copies of these figures are attached to, and made a part of, this affidavit.

Fig. 2 represents a triangle or tappet J carried by a lever H, the tappet being pivoted to said lever at point A. Fig. 2 shows this tappet in engagement with a horizontally positioned rocker I. In Fig. 1 the same rocker is shown tilted to an angular position. The tappet J of Fig. 1, however, does not show how the tappet J of Fig. 2 would appear if the rocker were tilted to the position shown in Fig. 1. It is common practice in mechanical work to make mechanical drawings to ascertain how parts of a machine will appear at different times and in different positions during the operation of the machine, but such drawings are entirely valueless for this purpose unless the parts are drawn accurately. The tappet J of Fig. 1 is very much bigger, particularly in height, than the tappet J of Fig. 2. Moreover, the pivot A of the tappet in Fig. 1 is arranged in a different place on this tappet than is the pivot A on the tappet J of Fig. 2. Had the tappet been properly drawn in Fig. 1 the pivot A would be exactly the same distance from the lower edge of the tappet as in Fig. 2. The tappet, of course, cannot [349] change its shape or physical dimensions in moving from one angular position to another. In Fig. 1 the tappet has been placed about 85% further from the base of the tappet than in Fig. 2. This is a very grave error and renders these

drawings worse than useless for any analytical purpose. They are worse than useless because they give an entirely misleading impression of the relative position of the axes A and D in Fig. 1 as compared with Fig. 2.

Reference is now made to the following paragraph as applied to the aforementioned figures:

“When the rocker and the tappet are positioned as in figure 1, the distance from pin A to point B on the upper face of the rocker is greater than the distance from pin A to the point on edge C of the upper face of the rocker where the base of the tappet intersects such edge, referred to hereinafter as point O. And the distance from the axis of the rocker shafts to the point on edge C of the upper face of rocker where the base of the tappet intersects such edge, referred to hereinafter as point P, is greater than the distance between such axis to point B. Hence, the lever from point P to the axis of the rocker shafts is longer than the lever from point O to pin A. As a result, when force is exerted by downward pressure of the lever H through the tappet upon the face of the rocker, the downward force at point O has the advantage of greater leverage than the downward force at point B, and the resisting force of the rocker at point B has the advantage of greater leverage than the resisting force of the rocker at point O.”

The foregoing quoted paragraph is a ridiculous analysis of levers and is obviously incorrect. The distance from point B to pin A in Figs. 1 and 2 does

not represent the "lever" or lever arms of any of the forces applied. The distance from the point B to the axis D of the rocker is likewise not a correct lever arm. [350] The aforequoted paragraph makes reference to the distances from the axes of the rocker and tappet to the points where these members engage on the right of these axes, but none of these distances referred to in the said paragraph is a true lever arm. The lever, or lever arm, of any force is the distance from the axis or fulcrum to the line of the force, taken at right angles to the line of the force.

The errors in the conception of levers and leverage in the aforequoted paragraph are common errors among students who are just beginning the study of mechanics. Sometimes the actual length of a lever arm is only a small fraction of the distance from the axis to the point where the force is applied, and no helpful information whatever as to leverages can be gained by a mere consideration of the distance from a point where force is applied to the axis of the member against which such force is directed.

/s/ EARDLEY B. MADSEN.

Subscribed and sworn to before me this 16th day of September, 1949.

[Seal] /s/ ALBERTA TRAVERS,
Notary Public in and for the County of Los Angeles, State of California.

My Commission Expires August 14, 1953. [351]

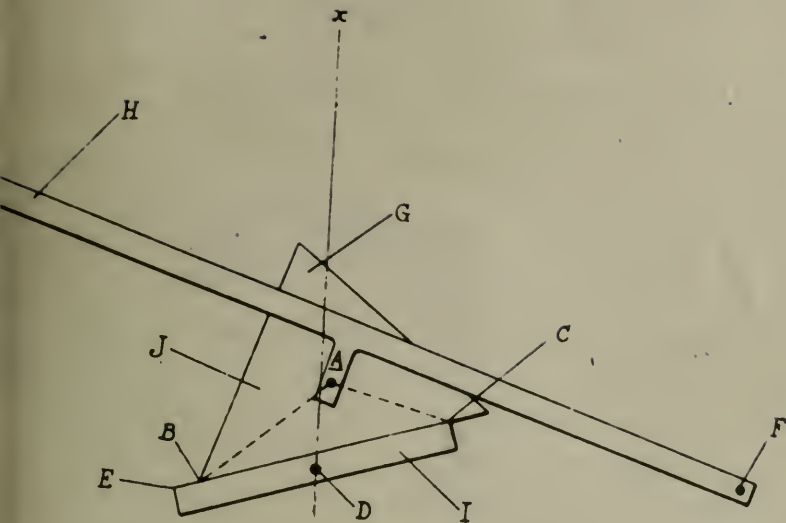


Fig. - 1

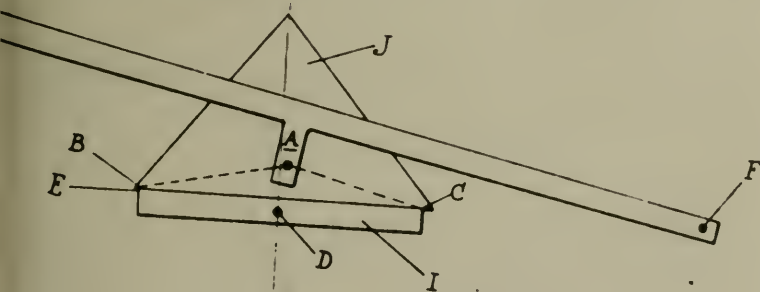


Fig. - 2

[Endorsed]: Filed Sept. 19, 1949

[Title of District Court and Cause.]

ORDER DENYING MOTIONS
FILED SEPTEMBER 19, 1949

Upon review of the entire record in this action and upon consideration of all memoranda, including memorandum filed by defendant October 21, 1949, the motion of defendant under Rule 52-b to amend the findings, conclusions and judgment, and the motion for a new trial under Rule 59, all filed herein September 19, 1949, are and each of said motions is denied in toto.

Dated November 2, 1949.

/s/ PAUL J. McCORMICK,
U. S. District Judge.

[Endorsed]: Filed Nov. 2, 1949. [379]

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that LeRoy J. Leishman, defendant above named, hereby appeals to the United States Court of Appeals for the Ninth Circuit from the judgment entered in this action on November 2, 1949.

/s/ JOHN FLAM,
Attorney for Defendant.

[Endorsed]: Filed Dec. 1, 1949. [380]

[Title of District Court and Cause.]

TENDER OF CASH DEPOSIT IN LIEU
OF BOND ON APPEAL

The defendant, LeRoy J. Leishman, having appealed from the final judgment of this court entered on November 2, 1949, to the United States Circuit Court of Appeals for the Ninth Circuit, now tenders to the court the sum of Two Hundred Fifty (\$250.00), to be deposited on his behalf with the Clerk of said District Court, subject to the orders of this Court as security that the said appellant shall prosecute his appeal to effect; and that said appellant shall pay all costs if the appeal is dismissed or the judgment affirmed, or of such costs as the Appellate Court may award if the judgment is modified.

/s/ LeROY J. LEISHMAN,
Defendant.

Dated at Los Angeles, California, this 1st day of December, 1949. [381]

[Title of District Court and Cause.]

ORDER UNDER RULE 73 (g) F. R. C. P.

For good cause shown, it is hereby ordered that the defendant-appellant in this case shall have to and including February 28, 1950, in which to docket the record on appeal in the Court of Appeals For The Ninth Circuit.

Dated: January 9th, 1950.

/s/ PAUL J. McCORMICK,
Chief Judge.

[Endorsed]: Filed Jan. 9, 1950. [382]

[Title of District Court and Cause.]

DESIGNATION OF CONTENTS OF RECORD
ON APPEAL UNDER RULE 75(a) F.R.C.P.

The defendant-appellant hereby designates the Contents of the Record of Appeal as follows:

1. Bill of Complaint with plaintiff's exhibits 3, 4, and 5 filed therewith.
2. Defendant's Answer and Counter-claim.
3. Plaintiff's Answer to Defendant's Counter-claim.
4. Defendant's Exhibit YY—Plaintiff's Answer to Defendant's Interrogatories, including said interrogatories.
5. Opinion of District Court herein.
6. Findings of Fact and Conclusions of Law herein. [383]
7. Final Judgment herein.

8. Defendant's Motion Under Rule 52b to Amend the Findings, Conclusions and Judgment, and Motion for a New Trial under Rule 59, pp. 1 to 11, inclusive.

9. Affidavit of Robert L. Daugherty on Behalf of Defendant.

10. Affidavit of John W. Hazen on Behalf of Defendant.

11. Affidavit of Sydney F. Duncan on Behalf of Defendant.

12. Affidavit of A. Paul Sorber on Behalf of Defendant.

13. Three charts filed with Sorber Affidavit.

14. Affidavit of Eardley B. Madsen on Behalf of Defendant, including chart filed therewith.

15. Minute Order Denying Motion Under Rule 52b, and Motion Under Rule 59.

16. Defendant's Notice on Appeal.

17. Tender of Cash in Lieu of Bond on Appeal.

18. Stipulation and Order Designating Certain Documentary Exhibits to Be Physical Exhibits for the Record on Appeal.

19. Stipulation and Order for Preparing sixteen copies of a Book of Exhibits.

20. This Designation of Contents of Record on Appeal.

21. Plaintiff's Concise Statement Under Rule 19(6) of This Court and Rule 75(d) F.R.C.P.

22. Defendant's Exhibit G—Findings of the U. S. District Court of the Western District of Oklahoma in the Case of LeRoy J. Leishman vs.

The Richards and Conover Company, Civil Action No. 2155.

23. The following designated portion of the Affidavit of Samuel S. Mackeown on Behalf of Plaintiff (filed with Memorandum Opposing Defendant's Motion for Summary Judgment: Page 3, line 32, to page 5, line 16.

24. The following designated portion of Memorandum Opposing [384] Defendant's Motion for Summary Judgment:

Page 12, line 26, to page 14, line 15, inclusive.

25. The following designated portion from Trial Brief on Behalf of Plaintiff:

Page 33, lines 3 to 20, inclusive;

Page 111, lines 11 to 17, inclusive.

26. The following designated portions of Reporter's Transcript:

Page 2, line 1, to page 4, line 25, inclusive;

Page 5, line 21, to page 9, line 11, inclusive;

Page 10, lines 1 to 16, inclusive;

Page 11, lines 3 to 13, inclusive;

Page 12, lines 1 and 2;

Page 12, line 6;

Page 12, line 10, to page 14, line 16, inclusive;

Page 16, line 6, to page 22, line 12, inclusive;

Page 23, line 5, to page 30, line 21, inclusive;

Page 31, line 6, to page 34, line 2, inclusive;

Page 35, line 13, to line 22, inclusive;

Page 36, line 8, to page 40, line 9, inclusive;

Page 40, line 15, to page 49, line 10, inclusive;

Page 53, line 1, to page 55, line 3, inclusive;

- Page 60, line 5, to page 62, line 17, inclusive;
- Page 63, line 2, to page 64, line 12, inclusive;
- Page 64, line 17, to page 78, line 21, inclusive;
- Page 79, lines 5 to 10, inclusive;
- Page 81, lines 16 to 18, inclusive;
- Page 82, lines 13 to 22, inclusive;
- Page 83, lines 5 to 12, inclusive;
- Page 86, line 11, to page 91, line 11, inclusive;
- Page 92, line 5, to page 101, line 23, inclusive;
- Page 103, line 8, to page 107, line 13, inclusive;
- Page 110, line 13, to page 111, line 1, inclusive;
- Page 111, line 13, to page 120, line 2, inclusive;
- Page 123, line 23, to page 124, line 19, inclusive;
- Page 125, line 24, to page 127, line 9, inclusive;
- Page 128, lines 3 to 24, inclusive;
- Page 129, lines 19 to 21, inclusive;
- Page 130, line 11, to page 133, to end of the sentence on line 14;
- Page 134, line 23, to page 135, line 5, inclusive;
- Page 135, line 14, to 143, line 25, inclusive;
- Page 146, line 14, to page 148, line 4, inclusive;
- Page 153, lines 10 to 21, inclusive;
- Page 154, line 25, to page 157, line 9, inclusive;
- Page 157, lines 15 to 18, inclusive;
- Page 158, lines 12 to 21, inclusive;
- Page 161, lines 13 to 16, inclusive;
- Page 166, lines 3 to 12, inclusive;
- Page 166, line 19, to page 167, line 11, inclusive;
- Page 167, lines 23 to 25, inclusive;
- Page 170, line 24, to page 180, line 25, inclusive;
- Page 181, line 20, to page 183, line 6, inclusive;

Page 184, line 3, to page 195, line 7, inclusive;
Page 196, line 1, to page 197, line 11, inclusive;
Page 198, line 13, to page 204, line 16, inclusive;
Page 206, line 18, to page 215, line 4, inclusive;
Page 217, line 17, to page 221, line 9, inclusive;
Page 223, line 18, to page 225, line 7, inclusive;
Page 226, line 15, to page 227, line 11, inclusive;
Page 229, lines 16 to 19, inclusive;
Page 236, line 19, to page 248, line 15, inclusive;
Page 250, line 23, to page 307, line 25, inclusive;
Page 309, line 19, to page 364, line 9, inclusive;
Page 371, line 1, to page 488, line 23, inclusive;
Page 491, line 1, to page 713, bottom of page.

27. The following designated Defendant's and Plaintiff's Exhibits to be contained in a Book of Exhibits:

Defendant's Exhibit A: U. S. Patent No. Re. 20,827;

Defendant's Exhibit Q: U. S. Patent No. 2,108,-538, which was reissued as the patent herein suit;

Defendant's Exhibit B: Heath Patent No. Re. 17,531;

Defendant's Exhibit C. Jacke Patent No. 2,297,-152;

Defendant's Exhibit D: Kettle Patent No. 290,-894;

Defendant's Original Exhibit F, filed with Motion for Summary Judgment: Certified Translation of Philips Danish Patent No. 52,047;

Defendant's Original Exhibit Fa, filed with Motion for Summary Judgment: Photostatic copy of Philips Danish Patent No. 52,047;

Defendant's Exhibit E-1: Marschalk Patent No. 2,072,897;

Defendant's Exhibit J: Soffietti Patent No. 2,388,581;

Marvin Patent No. 1,704,754, from Book of Patents, Defendant's Original Exhibit A, filed with Motion for Summary Judgment;

Defendant's Exhibit S: Fitz Gerald Pat. No. Re. 20,357;

Defendant's Exhibit T: Enderwood Patent No. 1,834,272;

Defendant's Exhibit V: Page 21 of Radio Retail Magazine;

Defendant's Exhibit Y: Leishman Patent No. 2,163,343;

Defendant's Exhibit Z: Crowe 1937 License Agreement;

Defendant's Exhibit AA: Allen and Allen Letter;

Defendant's Exhibit GG: Crowe 1938 License Agreement;

Defendant's Exhibit PP: Page 41 of Elements of Alternating Currents;

Defendant's Exhibit QQ: The designated pages from Dictionary of Applied Physics;

Defendant's Exhibit RR: Page 30 of Electrical Measurements; [387]

Defendant's Exhibit VV: Certified copy of pages from Jacke file wrapper;

Defendant's Exhibit WW: Leishman Letter to James and Franklin;

Defendant's Exhibit XX: Patent Office Action Citing Marschalk Patent;

Defendant's Exhibit FFF: Bulletin of Zenith Corporation;

Defendant's Exhibit HHH: Bast Pat. No. 1,687,-420;

Defendant's Exhibit III: Faas Pat. No. 1,928,-200;

Defendant's Exhibit JJJ: Peck Patent No. 1,865.704;

Defendant's Exhibit KKK: Vasselli Pat. No. 1,846.289;

Defendant's Exhibit LLL: Bird Pat. No. 1,925,-651;

Defendant's Exhibit MMM: Morin Pat. No. 1,828,197;

Defendant's Exhibit K-1: Drawing from Lane and Mackey File Wrapper;

Plaintiff's Exhibit 1: James and Franklin Letter to Leishman;

Plaintiff's Exhibit 2: Leishman Letter to Radio Industry;

Plaintiff's Exhibit 8: Woodbridge Pat. No. 585,-996;

Plaintiff's Exhibit 9: Miller Pat. No. 2,014,358;

Plaintiff's Exhibit 10: Cunningham Pat. No. 1,930,192;

Plaintiff's Exhibit 18: Schaefer Pat. No. 1,906,-106;

The following designated portion of plaintiff's Supplemental Reply Brief: Page 10 of the Appendix, line 5, to page 11, line 7. The drawing occupying page 12 of the Appendix. [388]

28. The following designated physical exhibits:

Defendant's Exhibit A: Book of Patents originally filed with defendant's Motion for Summary Judgment;

Defendant's Exhibits E, L2, X, JJ, NN, F, H, L3, BB, JJ-1, SS, I, L4, EE, KK, VV, ZZ, II, L, M, FF, LL, AAA, L1, N, W, HH, MM, GGG;

Plaintiff's Exhibit 3;

Plaintiff's Exhibit 11.

29. Order of the District Court Extending Time for Filing of Record on Appeal.

30. Order of Court of Appeals Extending the Time for Filing of Record on Appeal.

Dated this seventh day of February, 1950.

/s/ JOHN FLAM,

Attorney for Defendant-
Appellant.

Affidavit of Service by Mail attached.

[Endorsed]: Filed Feb. 7, 1950. [389]

[Title of District Court and Cause.]

DEFENDANT'S SUPPLEMENTAL DESIGNA-
TION OF CONTENTS OF RECORD ON
APPEAL UNDER RULE 75(a) F.R.C.P.

The defendant-appellant hereby designates the following additional physical exhibits as part of the Record on Appeal:

Plaintiff's Exhibit 6.

Plaintiff's Exhibit 7.

Dated this tenth day of February, 1950.

/s/ JOHN FLAM,

Attorney for Defendant-
Appellant.

Affidavit of service by mail attached.

[Endorsed]: Filed Feb. 10, 1950.

[Title of District Court and Cause.]

COUNTER-DESIGNATION OF CONTENTS
OF RECORD ON APPEAL

Plaintiff-appellee hereby designates contents of the record on appeal additional to the designation of defendant-appellant as follows:

1. Plaintiff's Exhibits 1 and 2 to the bill of complaint (these to be added to defendant-appellant's designation of Exhibits 3, 4 and 5 to said complaint).

2. This counter-designation.

3. The portion of the reporter's transcript Page 153, line 22, to Page 154, line 6. [393]

4. The following Exhibits to be contained in the book of exhibits:

Plaintiff's Exhibits 4, 17, 18;

Defendant's Exhibits O, P, Q.

5. The following physical Exhibits:

Plaintiff's Exhibits 5 and 5-A;

Defendant's Exhibit LL1.

/s/ LEONARD S. LYON, JR.,
Attorney for Plaintiff-
Appellee.

Affidavit of service by mail attached.

[Endorsed]: Filed Feb. 18, 1950. [394]

[Title of District Court and Cause.]

DEFENDANT-APPELLANT'S SECOND SUPPLEMENTAL DESIGNATION OF CONTENTS OF RECORD ON APPEAL

Defendant-Appellant hereby designates the following as additional contents of the record on appeal:

Defendant's documentary exhibits K, R, U, W-1, OO, TT, UU, BBB, CCC, DDD, EEE, NNN, OOO, PPP, and QQQ;

Volumes 1 and 2 of the Transcript of Record on Appeal in *The Richards and Conover Company v. LeRoy J. Leishman*, in the United States Court of Appeals for the Tenth Circuit, [396] filed with plaintiff's supplemental brief.

This supplemental designation.

Stipulation Designating Certain Documentary Exhibits to be Physical Exhibits for the Record on Appeal.

/s/ JOHN FLAM,

Attorney for Defendant.

[Endorsed]: Filed Feb. 23, 1950.

In the District Court of the United States for the
Southern District of California, Central Division

No. 5781-M-Civil

GENERAL MOTORS CORPORATION,

Plaintiff,

vs.

LeROY J. LEISHMAN,

Defendant.

Honorable Paul J. McCormick, Judge, Presiding.

Reporter's Transcript of Proceedings

Tuesday, May 25, 1948

Appearances:

For the Plaintiff:

LYON and LYON, By

LEONARD S. LYON, SR., ESQ.

For the Defendant:

JOHN FLAM, ESQ.

Mr. Flam: I will call Mr. Leishman.

LeROY J. LEISHMAN

called as a witness on behalf of the defendant, being
first sworn, was examined and testified as follows:

The Clerk: State your full name.

The Witness: LeRoy J. Leishman.

(Testimony of LeRoy J. Leishman.)

Direct Examination

By Mr. Flam:

Q. What is your age, Mr. Leishman?

A. 52.

Q. And your occupation?

A. I am an engineer.

Q. What kind of engineer?

A. Well, I have done work as an electrical engineer and radio engineer and mechanical engineer.

Q. When did you first become interested in the subject of radio?

A. I first became interested in the subject of radio about 1917.

Q. Under what circumstances?

A. At that time I had developed some systems for transmitting pictures by wire—systems similar to what are now called facsimile transmissions or wire photos and I was [2*] interested in radio as an additional medium for transmitting pictures.

Q. Did you devise more than one of those transmitting systems for pictures?

A. Yes. I had three different systems for transmitting pictures.

Q. Any of them commercialized?

A. Yes. From 1919 until 1925 my systems for transmitting pictures were the only ones in commercial use in the United States—I think in the world.

* Page numbering appearing at bottom of page of original Reporter's Transcript.

(Testimony of LeRoy J. Leishman.)

Q. Can you give us an idea of about how many newspapers had contracts under this service?

Mr. Lyon: I object to that as immaterial and having no bearing on this case.

The Court: It may go as to the commercial success of the transmission of matters that are utilized in television and also motion pictures. I think that, however, is something that we will reach later on. Let us get down to the bases of the patent first and let us have a narrative of a commercial success later.

Mr. Flam: If your Honor please, these are questions directed to qualifying the witness as an expert.

The Court: All right.

Mr. Flam: The amount of work that he did in these fields. The commercial success of these pictures has nothing [3] to do with the commercial success of the device under patent.

The Court: We have access, of course, to the litigation and the recorded opinions of the court.

I think we can assume that Mr. Leishman has been very active in this field of activity.

Mr. Flam: Yes. But I should like to show here as a matter of record that he is also a competent engineer and an expert.

Q. (By Mr. Flam): Have you done any work in connection with television?

A. Yes; mostly in connection with means for transmitting television in color.

(Testimony of LeRoy J. Leishman.)

Q. Have you patented any inventions in the field of radio?

A. Yes. Of course the automatic tuners here involved have to do with radio and then I have some patents on what are called electric pickups which have to do really with the field of electronics, of which radio is a part. And the purpose of them was to play phonograph records electrically through the amplifiers in radio sets so in that way it had to do with the field of radio.

Q. Did any of your ideas in connection with phonograph pickups—were any of them commercialized?

A. Oh, yes. I had three different licenses under those patents. [4]

* * *

Q. (By Mr. Flam): Mr. Leishman, what takes place in a radio receiver when a station is tuned in?

A. Radio receivers of the type that are generally used are capable of being tuned to more than one station. That being true something has to be varied in order to tune [5] the set and the average set—in the average set a variable condenser is used which contains in general, two parts—a stator consisting of a group of leaves, metal leaves and then there is a rotor which also consists of a group of leaves and when the control shaft is turned the amount of angular rotation determines to what extent the stator leaves and the rotory leaves overlap.

Now, that controls capacity or—it controls the capacity of the radio set and for electrical reasons

(Testimony of LeRoy J. Leishman.)

that I don't think we need to go into—it is what takes care of the tuning so when you tune a radio set what you actually do is to rotate the control shaft of a device of this nature—a variable condenser. And then there are other ways of tuning a radio set which require that a core or plunger of finely powdered iron in a suitable binder is moved in and out of an electrical coil and the amount or the distance that the plunger is inserted within the coil determines the tuning of the set and what station is tuned in.

So, in either case when you tune a radio set you are varying something mechanically that causes the receiver to respond to a different broadcasting station.

The Court: Let me interrupt. I have tried one or two of these cases. That was sometime ago, however. Is there any difference in the nomenclature of tuning and selectivity?

The Witness: Yes, sir. [6]

The Court: What is the difference?

The Witness: In tuning you go through the process that I mentioned but selectivity has to do with the degree of accuracy of tuning.

Now, a set could be made so that it would tune very broadly and you could say you tuned it but it would be tuned broadly. Some sets have much greater selectivity than others. When we first started with radio broadcasting in Los Angeles there were only two stations, KHJ and KFI, and the sets only needed to be sufficiently selective or to have

(Testimony of LeRoy J. Leishman.)

enough selectivity to tune one out and make it so you heard the other. They were very widely spaced on the dial. They had frequencies of transmission that were widely varied so the set didn't have to have much selectivity. But as we had more and more broadcasting stations in Los Angeles, in order to make it sufficiently selective to tune out all the stations that you wanted but the particular one you were listening to it was necessary to have greater selectivity.

Q. (By Mr. Flam): What is meant by "automatic tuning" of a radio set?

A. In automatic tuning a series of manually operable selectors are provided so that the set user, by pressing a given button, can automatically tune in a desired station. When he presses the button automatically the motion is that which we have discussed and the condensers turn or the core [7] that I mentioned in the other type of tuning that is referred to as permeability tuning, the core moves into the coil just the right amount to tune in the station that is required.

Q. Now, when to your knowledge were the first mechanisms suggested that were intended to make it possible to tune radio broadcasting stations automatically?

A. Well, to my own knowledge the first ones were suggested in 1924 but I have read decisions referring to tuners that were invented in 1922.

Mr. Lyon: I object to the witness testifying as to what he has read in decisions.

(Testimony of LeRoy J. Leishman.)

The Court: Yes. I presume we can read those decisions later on if you want to cite them, Mr. Flam.

What was the date of your first acquaintance with them, Mr. Leishman?

The Witness: My first acquaintance with them personally was along about 1927 or 1928, but I have in my possession many patents that were filed as early as 1924.

Q. (By Mr. Flam): When were you granted your first patent on automatic tuning?

A. I was granted my first patent on automatic tuning in June of 1937.

Q. Was that upon your re-issue patent, Exhibit A?

A. No; but it was granted upon the same application in [8] which the tuning mechanism described in the re-issue patent was originally set forth.

Q. What was the patent of the—what was the number of the patent, do you know, on which this re-issue was based?

A. Well, the first patent that issued on that application, on which the re-issue was based, was patent No. 2,084,851. That is the one issued in June, 1937. The application on which that patent issued, though, was the application which contained the original description of the tuner as set forth in the patent before the court. [9]

(Testimony of LeRoy J. Leishman.)

Q. (By Mr. Flam): Have you made a search and found out how many automatic tuner patents were granted before patent No. 2,108,538 was issued to you in February of 1938?

A. No, I never made any search excepting through my own files.

Q. How many of them do you know of?

A. I know of 35 patents that were issued—that were filed in the United States before the original of my re-issue patent was granted. And I know of some in foreign countries as well. I think that I filed with my motion for summary judgment four foreign patents that were filed before the original of my re-issue patent was granted.

Mr. Flam: If your Honor please, the collection of patents to which this witness will refer is found in this bound volume. They are quite well indexed. One is for the use of the court and one is for the witness on the stand. [10]

* * *

The Court: This is for the purpose of showing the state of the art.

Mr. Flam: Yes, and your Honor, to show what Mr. Leishman did in connection with this industry, explaining what had happened before he came into the field and what happened afterwards.

Q. (By Mr. Flam): Now, Mr. Leishman, can you explain what some of the earlier automatic tuning devices were with the aid of this collection of patents?

(Testimony of LeRoy J. Leishman.)

A. As far as I know personally the first patent to be filed in this industry—— [11]

* * *

Mr. Flam: We will wait until you find the proper page.

* * *

The Witness: It is the tenth patent in the book.

* * *

The Witness: No. 10 was issued to W. P. Heath and states on the first page of the drawing that this one was applied for in 1924.

At that time the radio sets that were in common use generally had two or three dials and the set illustrated in Figure 1 is of the three-dial type. And since the arrangement is substantially the same for all three dials I think we can facilitate the explanation of this by referring to Figure 2 which shows one of the dials.

It may be remembered that when these sets were common that it was necessary to tune—to turn I should say, all three dials to substantially the same number. Sometimes there was a little variation.

In this Heath device an extra dial is attached to the regular dial of the set and around the periphery of this outer dial there is a series of holes and it will be noted [12] in Figure 2, that one of the strings or cords shown in the figure passes through an aperture (22) of the baseboard of the set and that it is attached to the dial directly above that aperture.

Now, the dial has been turned to that position—in the position shown in the figure, by pulling the

(Testimony of LeRoy J. Leishman.)

particular cord that is there shown in the vertical position. And I think it will readily be understood that if cord No. 18 on the right were pulled through the aperture (22) that it would rotate the dial until the position of attachment of that cord had turned approximately above the hole 22.

Now, in the Figure 1 showing again, it will be observed that three cords are attached to each one of the index tabs. The index tabs are indicated A, B, C, D, E, and all the cords attached to B, for example, have their opposite ends, after passing through the apertures 22, attached to the periphery of the periphery of the respective dials, so that by pulling cord "B," for example, of the dials they are rotated to a position which roughly corresponds to the position in which the point of attachment of the cord is above the aperture.

Now, if the cord "A" is pulled the three different wheels will be rotated to a different position in this device. I might say this device is not a very accurate one because I think it will readily be understood that when you pull on one of these cords the dial wouldn't be turned to any very [13] precise position. It would vary quite widely in the position at which it might stop above the aperture (22).

I think that is a sufficient explanation of the Heath patent. This patent, incidentally, was owned by the Zenith Radio Corporation.

Mr. Lyon: Does that appear as a matter of record?

Mr. Flam: It is on the face of the patent itself.

(Testimony of LeRoy J. Leishman.)

(Handing document to Mr. Lyon.)

Mr. Flam: I offer the Heath patent, re-issue No. 17531 in evidence.

Mr. Lyon: I object, your Honor, on the ground it is immaterial and irrelevant. I make the objection because I expect to object to this whole volume of patents as requiring your Honor to consider and construe and understand a whole lot of papers for what would at best be a very minor point in the case. [14]

* * *

The Court: Can't we pick out some patents that you think more nearly approach the feature that you claim to be invention in the patent in suit?

Mr. Flam: Well, I think, your Honor, it is very important to show this court what crude and inefficient attempts have been made to solve the problem of tuning. I don't expect Mr. Leishman to go into and describe it in detail but I think he should explain in a brief way what they are and let that explanation go into the record.

The Court: I was just simply trying to suggest a way that the history of the matter could be perhaps as thoroughly narrated on the witness stand as it can be. Certainly it can to this court because I am somewhat familiar with the extensive narratives that the experts are prone to use on both sides in these cases.

Mr. Flam: Your Honor, I appreciate that and that is why I say a mere reference to these patents be made so that your Honor will be apprised of

(Testimony of LeRoy J. Leishman.)

the fact that many attempts have been made, as I said in my opening statement, to provide an efficient and satisfactory automatic tuner. This is one [16] of the first crude attempts and I am through with it. I don't want to go on and say anything more about it or have the witness say anything more about it.

The Court: Well, with that statement, of course, the objection is overruled. That is Heath No. 17531 if you want to mark it in my copy of the book, Mr. Clerk.

The Clerk: Defendant's Exhibit B in evidence.

(The document referred to was marked Defendant's Exhibit B and received in evidence.)

Q. (By Mr. Flam): Now, Mr. Leishman, I think you mentioned the Jacke patent. Is that No. 6 in the book?

A. Yes, the Jacke patent is No. 6.

Q. Will you say just a few sentences about this particular system of tuning?

The Court: 2,297,152?

The Witness: That is right. This patent was issued in 1942 but it is an early one. Nevertheless, it will be noted on the first page of the drawings that the application was filed in November, 1928—14 years earlier.

Now, this patent is on an electrical system for performing the automatic tuning operations. I am not going into any detail in describing this except very generally. This is typical of a whole class and

(Testimony of LeRoy J. Leishman.)

I needn't mention any more of the things about it that apply to other motor driven tuners.

In Figure 8 there is a motor, 12, and the purpose of that [17] motor is to rotate the tuning mechanism and the dial to the proper positions for the different stations.

On the front of the set there is the usual plurality of buttons. When a given one of the buttons is pressed—and, incidentally, in Figures 1, 4 and 8 the button, for convenience, is shown in blue. When a given button is pressed two things happen. The motor is started moving and a member, 19, which can be seen in Figure 4 right by the button—it is the pivoted member that is tilted—when the button is pressed in, the member 19 is moved to a straight up and down position as will be seen in Figure 8 on the second page of the drawing. That member is standing straight up.

The Court: What is the number, Mr. Leishman?

The Witness: No. 19. Now on a dial that is connected by a system of gears to the tuning shaft—on a shaft, I should say that is connected by gears to the tuning shaft 9, there are a plurality of collars, No. 83, each of which carries a screw, 18, and it will be noticed that the screw 18 is in contact with the tappet 19 in Figure 8.

There is one of these screws for each tappet member. In other words, there is one for each station. Now, when the button is pressed in the motor starts to rotate and shaft 14, carrying all these collars 83 and the screws 18, turns around. But the rota-

(Testimony of LeRoy J. Leishman.)

tion is stopped when the screw 18 [18] associated with the given tappet 19 collides with the tap in the position shown in Figure 8.

As soon as that happens by mechanism that we don't need to describe, a circuit is made—that is, contacts are closed and the circuit is made that operates the solenoid mechanism shown at the right in Figure 8 and that causes the motor to stop. So, whenever any button is pressed that series of operations take place.

I think that is sufficient description of the Jacke patent.

Mr. Flam: I offer the Jacke patent in evidence, your Honor.

Mr. Lyon: May my objection stand to each of these patents without my repeating it, your Honor. I don't want to take up the time unnecessarily.

The Court: It may be so understood unless the court rules otherwise. The objection is overruled.

The Clerk: Defendant's Exhibit C in evidence.

(The document referred to was marked Defendant's Exhibit C and received in evidence.)

Q. (By Mr. Flam): Now, Mr. Leishman, the first patent that the complaint lists as alleged anticipation of your patent is found as No. 1 in this book of patents—the Kettell patent, No. 290.894.

Now, that patent was issued in 1883. Can you inform [19] the court what historical importance there is in connection with automatic tuning of this patent?

(Testimony of LeRoy J. Leishman.)

A. This patent, of course, doesn't deal directly with the problem of automatic tuning but it deals with the same general problem that is dealt with in automatic tuning.

In automatic tuning, as we have discussed, it is necessary to cause a rotatable member to turn to a predetermined angular position. In automatic tuning the device must be capable of being set so that the predetermined positions will be those desired by the user.

In Kettell's mechanism he had means for setting the minute hand of the clock exactly on the hour. It will be remembered that before electric clocks were common that many business houses had clocks which were automatically set on the hour. The Western Union operated a service of this type and the clocks were set by an impulse coming in hourly from the United States Observatory in Washington. And when that impulse would come in the minute hand would be automatically set on the straight up and down position by the Figure 12 and any slight variation—in fact any large variation, if it wasn't too great, would be compensated for and it operated in this manner. In Figure 1 it shows an electrical impulse causing the lever to move to the left. On the left side of the lever "E," it will be noted that there are two tappets, portions of which I have colored red for [20] easy identification.

If the minute hand happened to be in the position shown which is in line with the the 11:00 o'clock position, the lower tappet would engage the bottom

(Testimony of LeRoy J. Leishman.)

of the green rocker attached to the minute hand and when the engagement takes place of this lower portion of the tappet it will move the bottom of the green rocker to the left and the top portion of the green rocker will move to the right until the top portion would collide with the upper tappet shown in red. That would cause the rotation to stop. And of course the tappet would be moved—I mean the rocker would be moved to the straight up and down position and the hour hand would be turned to 12:00 o'clock.

Now, each hour that operation takes place and the clock is realigned with the straight up and down position when the signal comes in.

In Figure 2 a modification of this arrangement is shown. In this instance the rocker consists of a couple of little pins, "F" attached to a wheel, "G" and the plunger, "A," which performs the same function as the lever "F" moves the tappets into engagement with the rocker members "F." Of course, one of the rocker members, "F," will be engaged first, causing the wheel "G" to rotate until the other rocker member shown in green strikes the other tappet. So it will be observed here that you have a device for positioning shafts [21] and it operates just the same whether it is operated by a lever or by a plunger.

I guess that is sufficient explanation of that patent, isn't it, Mr. Flam?

Q. (By Mr. Flam): Yes. I offer the Kettell patent, Patent No. 390894 in evidence.

(Testimony of LeRoy J. Leishman.)

(The patent referred to was marked Defendant's Exhibit D, and was received in evidence.)

The Court: Same ruling.

Q. (By Mr. Flam): Mr. Leishman, will you turn to No. 36 in the book of patents, the Woodbridge patent No. 585996? A. I have it.

* * *

Q. (By Mr. Flam): Does that patent to Woodbridge have any pertinence to automatic tuning for radio sets, Mr. Leishman?

A. Well, it doesn't have any direct pertinence excepting that this device, like the Kettell patent, is concerned with the problem of angularly positioning a rotatable member. This device has a series of levers and each lever is so built that it will turn the rocker, "D," shown in green, to a predetermined angular position.

Of course this is a cash register device and it deals with numbers and there are only nine digits and the cipher. But this device as shown in Figure 1 has the rocker, "D," connected to a shaft, "D-3," and on that shaft "D-3" there is an arcuate member mounted which bears a plurality of numbers. And as the rocker "D" is turned to different angular positions different numbers will come into position indicated by "D-4." In the position shown here zero happens to be in that position, but for other angular positions it might be five or six or

(Testimony of LeRoy J. Leishman.)

four or some other number. And each of the levers has a tappet, a tappet portion on the inner side. One of them has been colored red [23] and each tappet is built at a definite angle so that when the lever, of which it is a part, is operated it will turn the rocker member "D" to the particular angular position for which the tappet has been constructed as an integral part of the lever.

So, there is nothing adjustable in this. You asked me what bearing it had upon automatic tuning. It couldn't be used as an automatic tuner because it is not adjustable. If you wanted to build an automatic tuner on this basis the manufacturer would have to make a tappet for every one of the different frequencies of all the stations in the United States so that the rocker would be turned to the proper positions.

Q. Do you know of any attempt to provide automatic tuning on this principle—that is, by using a rocker and tappets where the tappet is adjustable, before your patent was applied for?

A. Yes. Such a device was attempted by Marschalk. I think there is a patent of his——

Q. No. 22?

A. Yes, that is the patent and Figure 14 on page 3 of the drawing shows his arrangement.

We have a copy or we have a model here in court, built according to Figure 14.

Q. Now, first of all, do you know whether this Marschalk device was ever used commercially?

A. Not to my knowledge it never was.

(Testimony of LeRoy J. Leishman.)

Mr. Lyon: If your Honor please, I move to strike the answer as incompetent. The witness should answer yes or no, whether he knows or not. The answer leaves an improper inference when he says "not to his knowledge," when he doesn't state whether he has any knowledge or not.

The Court: It hasn't very much evidential value. The judge of the court is hearing what he says. That is, I have pretty good hearing. I don't attribute much value to any answer of that kind. You would have to explore his knowledge and that might be quite extensive. I don't think we want to go into each of these patents to that extent.

The Witness: I might say in this case that I am—I was for several years at least along about that period, in the automatic tuning art, quite familiar with what was being done, and I hadn't come in contact with it but it is possible it could have been used without my knowing it.

Q. (By Mr. Flam): You say you have a model of the Marschalk device here?

A. It was filed with my motion for summary judgment so it is in the court's possession.

(Mr. Flam tending object to Mr. Lyon.)

Mr. Lyon: I have seen it.

Q. (By Mr. Flam): Is this the model, Mr. Leishman? [25]

A. Yes; I recognize it from here.

The Court: Is that marked as an exhibit on the motion for summary judgment?

(Testimony of LeRoy J. Leishman.)

Mr. Flam: I would like to re-offer it or have it marked for identification until Mr. Leishman testifies about it. May I have it marked for identification?

The Court: Yes.

(The model referred to was marked as Defendant's Exhibit E, for identification.)

Q. (By Mr. Flam): Now, will you demonstrate to his Honor just how that Marschalk device is supposed to operate?

A. Yes. I might compare it briefly with the structure shown in the patent. It will be noted that this corresponds with the structure in the patent excepting that instead of having a solenoid arrangement on the end to pull the lever down electrically, that has been left off so we will have to press it down with our fingers, but otherwise it follows the structure shown in the patent.

This device unlike the Woodbridge arrangement attempts to provide an adjustable tappet so that the tappet can be adjusted to a given angular position, intended to turn the control shaft to the angular position that would be required for a station. The tappets, the members No. 44 in the patent—and it will be observed that we have such a tappet on this tuner, and the rocker in the patent [26] is No. 34 and we have a representation of that rocker on this device and then I have arranged a dial attached to the rocker that is an indicator which is coordinated with a dial containing a few calibrations.

(Testimony of LeRoy J. Leishman.)

Now, the way this is set it follows roughly the method that Mr. Flam set forth in the setting of my device. You turn the rocker to the angular position that is required. I am turning it now to a level position. And you press down on it and then the tappet takes the position of the rocker and then you tighten the set screw and then no matter what angular position the rocker has it is supposed to turn to that position. And if the rocker happens to be in a horizontal position that will take place, but if the rocker is tilted at all when the adjusting process takes place—suppose you tilt it that way and then you bring the tappet down into engagement with it—it will be noted that I am trying to arrange this so his Honor as well as Mr. Lyon can see it.

Mr. Lyon: Go ahead; I can see it.

The Witness: You push the lever down and you notice the rocker immediately turns as soon as you engage it—it turns as soon as you engage it.

Mr. Flam: May I ask you now, this process you are talking about now is the process of adjusting the position of the tappet in accordance with the position of the rocker [27] that has been assumed for a station?

A. That is right. It is the setting process. It is the process of initially setting the tappet to the position required for a given station. You tune in the station with the manual knob, which is represented by the knob on the left of the device when

(Testimony of LeRoy J. Leishman.)

the lever is facing you, and whenever it is turned to any angular position and you press down on it—I think this has been turned here unduly by mistake by somebody. I will get this in a little more reasonable arrangement. Whenever you have it—suppose when you put it at 160 and then you press down on this so that the tappet will take the position of the rocker it immediately flips around. It has turned now from 160 down to what would be about 140. If you turn the other end and then you press this down it moves from 55 up—it has moved over there to 85. It is a very difficult thing to adjust. And of course for accurate tuning the tappet must be positioned very accurately to the position of the rocker.

Q. Now, who made or was that model made under your supervision? A. Yes, it was.

Q. And does it conform generally with—does it conform with the Marschalk disclosure?

A. Yes.

Mr. Flam: I offer the model in evidence, your Honor. [28]

The Court: It will be received.

Mr. Lyon: If your Honor please, the model is only fragmentary. If it can be understood that it doesn't purport to be a complete illustration of what is in the Marschalk patent, all right. It doesn't have the condenser and so forth that are shown in the patent.

The Court: There doesn't seem to be any elec-

(Testimony of LeRoy J. Leishman.)

trical actuating mechanism in the model. Is that what you mean?

Mr. Lyon: Yes. And I think the absence of those parts may affect the testimony or the demonstration that the witness has given.

The Court: Well, they may or may not. I am not saying now whether they do or not.

The Witness: I might say in that regard, and this may be out of order, but your Honor can correct me if it is. In the Oklahoma case the other side presented a model with a condenser attached and it made very little difference. It had considered load and the device flipped around just as shown on this model.

The Court: The objection is overruled.

The Clerk: Defendant's Exhibit E in evidence.

(The model referred to was marked Defendant's Exhibit E, and was received in evidence.)

Q. (By Mr. Flam): Now, Mr. Leishman, you have demonstrated how this Marschalk device when operated would [29] not maintain a setting at the time when the tappet was to be adjusted in accordance with the position of the rocker. Would this difficulty be permissible in automatic tuning?

A. No, it wouldn't be permissible for that to occur even to a very small fraction of a degree. The rocker has to be very accurately set and of course for it to return to that position the tappet has to take the exact hairline position, if I may put it

(Testimony of LeRoy J. Leishman.)

that way. I think in the Associated case Dr. McKuhn himself called it, "a hairbreadth position."

Mr. Lyon: I object to the witness testifying as to what some other witness said.

The Court: Yes. He is here and I suppose he will say something about it later on, if we reach that point in the case. I don't think the witness should compare other witnesses on the stand. That is the function and responsibility of the court, to make comparisons and I find it is pretty hard to do in these patent cases.

Q. (By Mr. Flam): Do you have any charts or other means to explain to the court just what this accuracy involves?[30]

* * *

Q. (By Mr. Flam): Now, Mr. Leishman, you have produced a chart. Will you explain this matter of the necessity of extreme accuracy with the aid of the chart?

A. The usual rocker in an automatic tuner, having a rocker rotating about 60 degrees and the rocker is indicated by the long member shown in cross section and lines have been extended out to the rocker showing the numbers at the opposite end of the broadcast band.

The rocker is shown connected by a gear segment to a gear which is mounted on the shaft of a variable condenser. The irregularly shaped member shown by the full gear is the rotary blades of the condenser.

A condenser usually turns through 180 degrees

(Testimony of LeRoy J. Leishman.)

and the 180 degree rotation of the rotor blades or leaves must cover the entire broadcast band which extends from, roughly, 550 up to about 1700. It covers about 1,150 kilocycles—11,500 cycles.

Now if the rocker moves through the total possible angle of 60 degrees and the condenser moves through a total angle of 180 degrees the gear arrangement [31] must be three to one—must have a three to one ratio so that the 60-degree rotation of the rocker will take care of the 180 degree rotation of the condenser.

So, it will be observed then that all of the positions shown around the dial in the upper portion of the drawing, must be taken care of by the 60-degree rotation of the condenser. If 60 degrees are going to take care of the 1150 kilocycle wave band we can find out how many kilocycles will have to be represented by only one degree of movement of the rocker. If you divide 60 into 1150 you get a little over 19. So, that means that only 1 degree of movement of the rocker will result in a 19 kilocycle variation in tuning. Now, for proper tuning it is necessary to get within one kilocycle of the frequency on which the broadcasting station is broadcasting. Now, that means 1,000 cycles, so you should be within 1,000 cycles or 1 kilocycle of the frequency on which the broadcasting station is broadcasting and that would be 1/19th of a degree of rotation of the rocker and it must be accurately positioned. And if you are going to set the tappet so when it

(Testimony of LeRoy J. Leishman.)

comes down to tune in that station you must set that tappet very accurately to a position which must be accurate to 1/19th of one degree.

Mr. Flam: I offer the chart in evidence, your Honor.

The Court: It will be received as illustrative.

The Clerk: Defendant's Exhibit F in evidence.

(The chart referred to was marked Defendant's Exhibit F, and was received in evidence.)

Q. (By Mr. Flam): Is it necessary that an automatic tuner be easily adjusted?

A. Yes. It must be very easy to adjust because the stations must be set up by people out in the field and by the actual owners of the sets. If it was difficult to adjust and if extreme accuracy was required such a tuner couldn't possibly be used commercially.

Q. Have there been any other attempts beside that of Marschalk to use an adjustable tappet for automatic tuning devices?

A. Yes. The Zenith Corporation which owned that Heath patent operating by strings, put on the market in connection with their sets an automatic tuner described in a patent issued to Schaeffer. That is in this book of patents. I think it is No. 15.

Q. Do you happen to have a tuner that actually—the actual embodiment of a tuner shown in that patent, Mr. Leishman?

A. No, I don't. The only one that I had is now in evidence in the Oklahoma trial and I wasn't able

(Testimony of LeRoy J. Leishman.)

to procure another one. I tried. I had someone search to see if they could get one from the Zenith Corporation back in Chicago.

Mr. Lyon: We have one, your Honor. We will be glad to [33] furnish it to the witness right after lunch. We unfortunately did not bring it with us this morning.

* * *

Mr. Flam: If your Honor please, I offer in evidence the certified copy of the findings of fact and conclusions of law in the Oklahoma court, Civil Action No. 2155, entitled Leroy J. Leishman, plaintiff, versus The Richard Conover Company, a corporation, defendant. This is in the United States District Court for the Western District of Oklahoma, and those papers have been placed on file in this case as a part of the motion of defendant for summary judgment filed February 21, 1947.

The Court: It will be received.

* * *

The Clerk: Defendant's Exhibit G in evidence.

(The document referred to was marked Defendant's Exhibit G, and was received in evidence.)

Mr. Flam: Now, your Honor, in order that your Honor may understand the purpose of this testimony regarding numerous prior tuning devices, I call your Honor's attention to Judge Harrison's decision or opinion, to be found in Volume 1 of the

(Testimony of LeRoy J. Leishman.)

United States Circuit Court of Appeals for the Ninth Circuit, Case No. 9970, and I will read the two sentences that are pertinent. Judge Harrison said:

“The demand for an automatic tuning device did not become acute in the radio industry until the latter part of 1936 or the early part of 1937. This is demonstrated in many ways.

“The record discloses a dearth of inventions in this field.”

Now, this evidence that we are offering now is in contravention of that statement. There was not only not a [36] dearth but I think there was a veritable flood of inventions in this field.

The Court: Read that again, Mr. Flam. I have what purports to be the opinion in 36 Fed. Supp.

Mr. Flam: Maybe I can find it for you.

The Court: I have it before me but you may be reading from another part. I have here:

“Plaintiff’s first premise is that there had been a demand in the industry for a long period of time for a successful tuner. The facts in this case do not indicate an appreciable demand for a tuner until about the fall of 1936.”

Is that the same sentence?

Mr. Flam: No. I am trying to find the place where your Honor is reading. That comes about a page later than from where your Honor is reading.

The Court: Yes, I see it now.

Mr. Flam: The third paragraph beginning with “The demand” and so on.

(Testimony of LeRoy J. Leishman.)

The Court: Yes, I have it now.

Mr. Flam: Where your Honor was reading, of course, it states that the facts in this case do not indicate an appreciable demand and so on, and then it mentions the Schaeffer patent and the Flaherty patents and then it says:

“The evidence reveals no other issued patents [37] until 1937 and 1938 when the plaintiff obtained two patents.”

The Court: Yes.

Q. (By Mr. Flam): Now, Mr. Leishman, I think you are ready to discuss the Schaefer patent which is found as No. 14 in the book of patents.

A. May I have the question read that I was asked to answer?

Q. I think I asked you whether you knew of any other attempts to provide an adjustable rocker or adjustable tappets for automatic tuning. I think you mentioned the Schaeffer patent.

A. Yes. The Schaeffer patent was another attempt along this line and the Schaefer patent was owned by the Zenith Corporation as indicated on the record itself—the patent itself. The Schaefer patent was filed in 1928 and it shows a mechanism for that purpose. And Mr. Lyon stated before the noon recess that he had a tuner here that we could use as a model, that I could use in my explanation.

Mr. Lyon: I have two tuners, your Honor. One of them is a complete tuner put out by the Zenith Corporation, and the other one is the same thing

(Testimony of LeRoy J. Leishman.)

with all the parts on the inside removed except one operating unit. This latter one was Defendant's Exhibit A in the case before Judge Harrison. The other one I don't remember whether it was before Judge [38] Harrison or not, but they are just the same devices except one has all the parts, all the duplicate parts in it and the other has just the single operating parts.

The Court: You had better let the witness use the one which he desires to use.

The Witness: I would like first to use the complete one and then maybe I might revert to the other one.

Q. (By Mr. Flam): I will place both of them before you, Mr. Leishman.

The Court: Perhaps they had better be marked for identification.

Mr. Flam: I would like to have these two models marked for identification as two exhibits.

The Clerk: Defendant's Exhibits H and I for identification.

(The models referred to were marked Defendant's Exhibits H and I for identification.)

The Court: Which is which?

Mr. Flam: H will be the complete device and the incomplete device, if I may call it that for short, will be Exhibit I.

The Court: Very well.

The Witness: This is a tuner that I will have to explain in a little detail because the object I think

(Testimony of LeRoy J. Leishman.)

of Mr. Flam's question, is to show the unsatisfactory nature of the [39] attempted solution of the difficulty exhibited in the Marschalk device or the difficulties encountered in providing an adjustable tappet.

Q. (By Mr. Flam): I may say for the court's benefit that this is one of the patents cited in the complaint of the plaintiff.

The Court: Claimed to be anticipatory?

Mr. Lyon: Yes, your Honor, and to show the state of the art on the question of invention.

* * *

The Witness: This is all right. Now, first I think it might be well to refer to Figure 2 of the patent. We have that upside down but I put it that way on purpose. That is the only way we can see it. In order to get a proper conception of the whole thing perhaps I had better turn it right side up first. It is now right side up and it will be observed that it corresponds generally with Figure 2 on the second page of the drawing of the Heath patent.

Q. (By Mr. Flam): You mean the Schaefer patent?

A. Yes, the Schaefer patent. Now, Figure 3 is a cross section through the center of the device longitudinally, [40] a longitudinal cross section, and we see other parts of the mechanism in Figures 1 and 4. In Figure 2 there is a lever containing or supporting, rather, a plunger portion on the bottom attached to it. The lever supports a tappet—tappet

(Testimony of LeRoy J. Leishman.)

member 53—I beg your pardon, 53 is the plunger portion attached to the lever and the tappet is 56.

Now, each of the levers carry, on the projection or plunger portion on the bottom, one of these tappets, 56, which is arranged to be adjustable.

Now, the thing that Schaefer is trying to adjust angularly is the shaft No. 1 shown in Figure 1 on the lefthand side—that is the control shaft of the condenser on Figure 1—the left-hand side of Figure 1.

Now, that control shaft is connected by means of a coupling, or universal joint, 11, to another shaft, 10, and that in turn is connected by a universal coupler, 12, to another shaft, 9. That will be seen just below a little set screw. The figure 9 is just to the right of the coupling device 12.

The shaft 9 extends all the way across the tuner. The tuning mechanism proper is the portion shown in the right hand half of Figure 1.

Shaft 9 will be seen also in Figure 4. It is shown in cross section. On Shaft 9 there is mounted a gear, 24, at one end of the tuner, and there is another [41] similar gear, 25, at the other end of the tuner.

The Court: The end of the long shaft there?

The Witness: Yes, just inside of the case. It can be seen only by glancing down from the top.

Now, there are two of those gears. Maybe your Honor can see that gear down there.

The Court: Yes, I see it.

(Testimony of LeRoy J. Leishman.)

The Witness: There is one just like it on the other side. Now meshing with the gear 24, as will be seen in Figure 4, are two racks, 26 and 27, on opposite sides of the gear 24.

Now, those racks are visible in the tuner and they can be seen in Figure 1. They are shown in cross-section.

Just below the gear 24 is a cross-section of the rack 26, and just above the gear 24 the rack 27 is shown in cross-section.

At the opposite side of the tuner, over on the right-hand end, there is another similar pair of racks. These racks are connected both at—one rack at one end of the tuner is connected to a corresponding rack at the other end of the tuner and the other two racks are similarly connected.

It will be noticed in Figure 4 that the tappet is in engagement with crossbar, 32. That is the rack that is shown in the uppermost position. It is connected to the [42] member, 32, with which the tappet is in engagement and then at the bottom of rack 27 there is another cross member, 34, which the tappet is also engaging.

Those cross members connect up with racks on the opposite side of the tuner. The upper ends of the racks 26 and 27, are also connected to cross members of this same kind.

The cross members at the bottom, cross members 32 and 34, can be seen very clearly in this model. That connects one rack and the other crossbar con-

(Testimony of LeRoy J. Leishman.)

nects the other two racks, and the upper ends are connected in the same way.

Now, it will be observed here then that between Schaefer's tappet, 56, and the shaft, 29, he has interposed 10 movable parts.

Now, this is rather important, I think, to show the nature of this structure. These parts I will designate and enumerate. There are two gears, 24. There are two racks, 26 and 27, on one end or side of the tuner. There are two racks, 29 and 28, on the other end or side of the tuner. That is six parts that we have now.

Then there are the two crossbars to which I called your Honor's attention that run from one side of the tuner to the other connecting the racks. The crossbars, 32 and 34—that makes eight intervening parts. And the corresponding crossbars on the top make 10. So, there are [43] 10 intervening parts between the tappet, 56, in the Schaefer device and the shaft 9 that he is trying to turn to a predetermined angular position.

He has to have guides for these rectilinear racks. All devices that move in a straight line rectilinearly, you have to have guides. These are seen in Figure 3 at the top—at the top of Figure 3 there are two guides, 30, one for each rack, and at the bottom there are two more guides, 30. You have the same reference numerals.

At the opposite side of the tuner there are two identical guides—that is, I mean four identical

(Testimony of LeRoy J. Leishman.)

guides, two for each rack. So, that makes eight guides in all. So, (18) eighteen additional parts have been added. Ten of them movable between the tappet and the rotatable member.

The Schaefer device does not exhibit the peculiarity shown in the Marschalk mechanism of flipping around as soon as you press the tappet firmly in engagement with the rocker, when the rocker is tilted, but to avoid that difficulty these intervening parts have been used.

In the other tuner that Mr. Lyon has supplied me, some of those intervening parts have been omitted, but there are still most of them in the mechanism. There are the two gears on opposite sides but instead of having one rack on one side and one rack on the other side connected by one member they have made the two racks, two companion racks on [44] the opposite side integral with the cross piece and the bottom crossbar is used, and that is also true on the opposite side.

There are still a large number of intervening parts between the tappet which we can see suspended from the plunger portion of the lever. This is the tappet. There are still a good many parts interposed between that and the shaft which Schaefer is trying to position, and by that interposing and the particular mechanical action there the difficulty has been avoided. Is that sufficient explanation of the Schaefer device?

Q. (By Mr. Flam): Have you explained how

(Testimony of LeRoy J. Leishman.)

the Schaefer device works generally? How it takes—how the tappets may be set and so on?

A. I have not but I will be glad to do that.

On this device you loosen the set screw or cap on the top of the lever. I will explain this on the single lever model that was introduced.

You loosen the screw and you tune the station in manually. You get it very accurate, to the position you want to have it and then you press down on the lever in the manner mentioned by Mr. Lyon in his description of the tuner in the re-issue patent, and then while you are holding it down so that the tappet takes the position of the racks, in this case the members that move up and down, there is no [45] rotatable rocker here, and while you are holding it firmly in engagement so that the tappet assumes a definite angular position you tighten the screw and that locks the cam in position and then no matter what position the tuner is tuned to, no matter what station is tuned in, whenever you press the lever it will return to the position that it had during the initial setting process.

Q. When was the Zenith tuner used in radio service, do you know?

A. As I remember it, it was about 1927 and 1928. It was used for about two years.

Q. Do you know whether it was used after that?

A. No, I don't. It disappeared from the market at that time and it was never used again.

Q. That is, when I say the "Zenith tuner" you

(Testimony of LeRoy J. Leishman.)

understood it was like those tuners corresponding to the Exhibits H and I for identification, is that right?

A. I don't know what numbers they have been given.

Q. Those that you have in front of you?

A. If these are H and I, this structure did not reappear on the market after the two years when it was initially used.

Q. Aside from the Marschalk device and this Schaefer device, were any other attempts made to use an adjustable tappet for automatic tuning? [46]

A. Yes, there were two that I know of.

Q. What were they?

A. One of them was Sofietti in Italy, who applied for a patent in Luxembourg before my original patent issued in the United States, and then he filed an application in the United States under the International Convention, and that is here in the book.

Q. Is that No. 34 in the book?

A. Yes, that is No. 34. The mechanism there is shown in Figure 6 and in conformity with the color notation system that we have been using, the rocker is shown in green and the tappet members in red and the manually operable portion is shown in blue.

In this device a tappet arrangement has been used which is never free to be turned and therefore the difficulty exhibited in a simple movable tappet doesn't occur. But in order to get away from the

(Testimony of LeRoy J. Leishman.)

difficulty it was necessary to use two tappets that are very difficult to adjust.

Now, as explained in the specification 6 prime and 6 double prime, or they may be screws—may be threaded members. So in this case you have to tune in the station which rotates the rocker 4 prime and 4 double prime to give an angular position and then you screw down the screws until they touch. One difficulty here will be that you would have to have six prime—the upper screw-retracted almost [47] completely so that you could turn 6 double prime, because as it turns around and rotates it would interfere with screw 6 prime.

Then after you have 6 double prime in about the position you think will be satisfactory, then you can screw down the upper screw, 6 prime, until it engages the rocker and then by a spring-means, not shown but mentioned, however, I think in the specification, the button is pushed out to a rest position and then, of course, other buttons can tune in the station or you can tune it manually in the usual way. But whenever the button 5 is again pressed, the tappets, having been adjusted in this way, will return the rocker shown in green and indicated by the numerals 4 prime and 4 double prime to the position for which they have been adjusted in that cumbersome manner.

Is that sufficient explanation of that patent?

Q. Yes. Can you state whether it was ever put into commercial use?

(Testimony of LeRoy J. Leishman.)

A. No, it never was.

Mr. Lyon: If your Honor please, here is a patent in Luxembourg. I think some foundation should be laid before the witness answers that question.

The Court: Yes, I think so. The copy that I have here shows that Mr. Leishman was the assignee of that patent.

Mr. Flam: Yes. [48]

The Witness: I don't know whether it was ever used in Luxembourg. I wasn't the assignee of the Luxembourg application. I was the assignee of the United States patent, and as far as I know it wasn't used. It could have been used without my knowledge. Frequently of late tuners have been coming on the market and I haven't known about them until a declaratory judgment suit has been filed against me to have the court declare it isn't an infringement.

Mr. Flam: I offer the Sofietti patent No. 2388581, issued November 6th, 1945, in evidence.

* * *

The Clerk: Defendant's Exhibit J in evidence.

(The document referred to was marked Defendant's Exhibit J, and was received in evidence.)

Q. (By Mr. Flam): You mentioned one other attempt to use an adjustable tappet for an automatic tuner.

A. That was the Lane & Mackey structure, the

(Testimony of LeRoy J. Leishman.)

file wrapper of which I introduced in evidence for the motion of summary judgment and is already on file.

Q. Is that the file history you are talking about?

A. Yes. This is the file wrapper of it. This is the certified file wrapper, incidentally certified by the Patent Office, of application Serial No. 117163, filed on November 29th, 1937, by Guy M. Lane and Henry Mackey.

Q. What is pertinent in that file wrapper to this question?

A. The general disclosure which can be seen satisfactorily in Figures 2, 3 and 4 on the last page.

Q. Do you have convenient copies of that for the court?

A. Yes, I had positive photostats made from the negatives in the file wrapper and I have four copies here, so we can all look at a copy.

In Figure 3 the rocker is No. 13, and it has been colored green.

Q. That may be held horizontally like this? [53]

A. Yes, look at it horizontally. I beg your pardon, the rocker is No. 11. The two opposite ends of it are indicated by 12 and 13. The tappet is No. 19 shown in red.

This device has a tappet provided with gear teeth on the periphery and these gear teeth engage with a worm gear, 46, which may be turned and adjusted by means of the screw, 51.

Now, with this device you see the tappet is still

(Testimony of LeRoy J. Leishman.)

not free. It is kept in constant restraint so that the difficulties exhibited in trying to make it an adjustable tappet do not occur when the rocker is tilted.

This is a very difficult piece of mechanism to adjust because as you can see if you adjusted the rocker and then pushed the rocker in engagement with the tappet it couldn't possibly assume the position of the rocker, so what you have to do is push the whole plunger mechanism, 29, into engagement with the rocker and then rotate the whole thing while engaged that way by means of screw, 51. That causes the worm, 46, to rotate, and that engages the teeth, 49, and causes the tappet to turn. And then when you finally tune in the station in that manner you have adjusted the tappet.

I think that is probably sufficient explanation of this mechanism.

Mr. Flam: I offer the sheet, photostatic copy of [54] Figures 2, 3 and 4 of the file wrapper in evidence. If there is any objection to it being a copy I can, of course, offer the entire exhibit in evidence.

* * *

The Clerk: Defendant's Exhibit K in evidence.

(The document referred to was marked Defendant's Exhibit K and received in evidence.)

Mr. Flam: Will it help your Honor to identify the drawing as a part of that exhibit?

The Court: You might mark that with a number. What is the file wrapper marked, Mr. Clerk?

(Testimony of LeRoy J. Leishman.)

The Clerk: Exhibit K, your Honor.

The Court: Then mark that Exhibit K-1.

(The document referred to was marked Defendant's Exhibit K-1 and received in evidence.)

Q. (By Mr. Flam): I believe you demonstrated this Exhibit E to the court and explained how difficult it was to adjust the tappet in accordance with the position of the rocker.

Now, what is your solution, if any, to that difficulty?

A. Why, I figured that the difficulty could be overcome by making it—by making the axis of the tappet and the axis of the rocker coincide—that is to make the one axis coaxial with the axis of the other. [60]

Q. Did you have any difficulty in doing that?

A. Why, I have a model that will show what was done. Of course it can be seen by the Marschalk device and by the rockers in the Sofietti and Lane & Mackey exhibits that the one tappet engages the surface of the rocker and, of course, two bodies can't occupy the same position at the same time, so in order to get the axis of one coaxial with the other I made an open rocker. I have an open rocker here and I prepared a little support to rest it on and that will show what I did.

I made an opening in the rocker in order to achieve this coaxiality and then I shaped the tappet so that when it is brought into an engagement with

(Testimony of LeRoy J. Leishman.)

the rocker it has such a shape that the axis can sit down in the rocker. In other words I cut away the sides of the tappet to make it possible for the axis to set down inside of the axis of the rocker so that the two axes could become coaxial. And it will be noticed on this device that that kind of difficulty doesn't occur. You can press down there as hard as you want and you don't have any of that trouble occurring.

Now, here is a non-coaxial arrangement and you press that down and it immediately flips around the same as the Marschalk device, but this coaxial arrangement solved the difficulty. You see you have no difficulty at all.

Maybe your Honor would like to try that. [61]

The Court: No, I watched you demonstrate it. Let us have those marked for identification.

The Witness: I think all four of these ought to be marked individually.

Mr. Flam: I would suggest that the base be marked for identification with one main number.

The Court: Marked serially.

The Clerk: The base will be Exhibit L for identification.

The Court: And the others will be L-1, L-2 and so forth.

Mr. Flam: Then let us identify them by name. The rocker will be L-1.

The Witness: The rocker is L-1.

Mr. Flam: And what we will call the coaxial tappet will be marked L-2 and the non-coaxial tappet will be marked L-3.

(Testimony of LeRoy J. Leishman.)

(The documents referred to were marked Defendant's Exhibits L, L-1, L-2 and L-3 for identification.)

* * *

Q. (By Mr. Flam): Do you have a chart that graphically illustrates the coaxial arrangement of the axis of the tappet and the axis of the rocker?

A. Yes, I have a single drawing here and I have a large chart which we could put up so everybody could see it. May I go get it?

The Court: Yes.

The Witness: I have the chart here. It will be difficult to attach that. Do you want me to explain the chart?

Q. (By Mr. Flam): Yes.

A. The rocker similar to the one on the exhibit that we have just shown, is at the top and then the axis is shown in dotted lines and the axis is actually cut away—there is no actual axle extending across there. We might refer to that as a phantom axis. That term was used in connection with another tuner in which the axis was cut away.

And then in the center of the device we have the tappet and the axis of the tappet is shown.

And then in the bottom figure it is shown how the axis of the tappet and the axis of the rocker coincides so that they form a single line when the two are in engagement. [63]

Mr. Flam: I offer the model, Exhibits L and

(Testimony of LeRoy J. Leishman.)

L-1, L-2 and L-3 in evidence as well as the chart showing the corelation of the parts.

The Clerk: Do you want to have that given a separate number?

Mr. Flam: Yes, a separate number. Do you have any more small sheets?

The Witness: I just have this one.

The Clerk: Marked Defendant's Exhibit M in evidence and the others are Exhibits L, L-1, L-2 and L-3 in evidence.

(The documents referred to were marked L, L-1, L-2 and L-3 and M received in evidence.)

* * *

The Court: So ordered. What was the number given the chart, Mr. Clerk?

The Clerk: Defendant's Exhibit M.

The Court: Why not give it a number in the L series. Make it L-4.

(The document heretofore marked Defendant's Exhibit M in evidence is now marked Defendant's Exhibit L-4 in evidence.)

Q. (By Mr. Flam): Referring to your re-issue patent, Defendant's Exhibit A, will you explain the double rocker and [64] double tappet construction for tuning both radio sets and television sets simultaneously?

A. Yes. In the central figure the tappet, 61, is cut away in the same general manner as the tappet that we have just been discussing on the last exhibit.

(Testimony of LeRoy J. Leishman.)

And the rocker, 48, is shown and these are shown as mounted on a little plunger, 57, attached to a lever, F, which moves into—it moves it into position. And it will be observed in this drawing that there is a second rocker, 54, shown in Figure 1 and also Figure 2, which is arranged coaxially and attached to a different shaft.

Rocker 48 is attached to shafts, which as stated in the patent are supposed to be connected to a radio tuning mechanism such as a condenser, and the other rocker, 54, is connected by means of its hub, 55, to a shaft, 25, which is as explained in the patent, connected to the television tuner.

Two different tappets here are shown mounted on the lever so that the single operation of the plunger, 57, and its insertion down into the position shown, and each tappet operates in the same way. So, in this mechanism here I arranged it so I could tune both the television set and the radio set in a single operation regardless of what angular positions the control shafts might need to be turned to. [65]

Q. (By Mr. Flam): Do you have a model of your tuner for tuning a radio set as shown or made in accordance with the drawing of your patent in suit?

A. Yes, there is one in the carton on the table.

(Mr. Flam exhibiting device to Mr. Lyon.)

Mr. Lyon: If your Honor please, if this model is offered as built in accordance with the patent in

(Testimony of LeRoy J. Leishman.)

suit I want to register my objection because I think it is perfectly obvious that it lacks the television rocker and the television tappet in that system.

If this is only offered to show some fragment of the parts that are illustrated in the patent that is a different matter.

This is an important question in the case because we contend that under the Circuit Court of Appeals decision an attempt to construe this patent to cover just a radio tuner divorced from and apart from and in the absence of a television tuner is an attempt to cover a different invention in the re-issue, for the reasons that Judge Mathews gave in connection with his decision on the fact that the patent was, the original patent, was limited to levers as distinguished from plungers. By the same law and same authorities the original patent was limited to a combination television and radio set and each and every claim, except claim 5, admittedly was so limited and Judge Mathews thus [66] has said claim 5 is not to be considered because it was disclaimed.

So, attempting to re-issue a patent to cover what would be embodied in this device which is just tendered to the court, would be right in the teeth of Judge Mathews' decision and I think this should not be offered as a correct illustration of the device shown in the drawings of the re-issue patent because it obviously is not.

Mr. Flam: May I say a few words, your Honor?

(Testimony of LeRoy J. Leishman.)

The Court: Yes.

Mr. Flam: In the first place I think your Honor has read Judge Mathews' decision. In that decision what Judge Mathews was complaining about was the fact that the patent attempted to be construed by Mr. Leishman covered a device in which either a lever or plunger would be used for operating the rocker.

Now, I don't remember any valid statement or any weighty statement in that decision which says that the invention must be confined to a double rocker and double tappet arrangement. I don't think that was intended at all by Judge Mathews.

In fact Mr. Lyon's own memorandum in opposition to the motion for summary judgment, at page 12:

"The devices complained of herein are radio receivers only and thus concern only a portion of [67] the mechanism of the patent in suit."

Now, on page 13 he says that the patent in suit consists essentially of three elements, a lever, an adjustable mounting, a tappet which is movable by the lever in contact with the rocker attached to the shaft to be positioned by a movement of the lever.

Now, Mr. Lyon comes along and says: "Well, the patent must be construed to include at all times both rockers and both tappets."

The best criterion for that, of course, is a consideration of the claim and none of the claims here

(Testimony of LeRoy J. Leishman.)

in issue include more than one rocker and one tappet.

Mr. Lyon: Your Honor, Mr. Flam has questioned the statement in Judge Mathews' opinion that I was referring to. I am referring to Judge Mathews' opinion on the first case—that was the Associated case which is reported at 137 Fed. 2d, 722, and in the right-hand column, on page 723, Judge Mathews says: "Thus a re-issue patent must be for the same invention as the original patent otherwise it is invalid. An original patent and a re-issue patent are not for the same invention unless what is covered by the re-issue was disclosed in the original and was intended to have been covered and secured by the original," and citing some cases in the Supreme Court "and this intention must appear from the face of the instrument." That is quoted from a decision [68] in the Supreme Court that is cited. "Hence the questions here to be considered are whether what is covered by claims 7 and 11 of the re-issue patent was disclosed in the original patent and whether it appears from the face of the original that was covered by claims 7 to 11 of the re-issue was intended to have been covered and secured by the original."

Now, our point is that—and then he applied that law to this difference between levers and plungers.

Now, our point is that this original patent and the original patent is not before your Honor except inferentially, but that the original patent contained

(Testimony of LeRoy J. Leishman.)

no statement of any kind indicating that it intended to cover to claim a device which did not have the combination with the television mechanism and that is the very thing that has been left out of this model.

Mr. Flam: Where in that decision, Mr. Lyon, is there a statement by Judge Mathews that the patent must be confined to two rockers and two tappets?

Mr. Lyon: Judge Mathews did not pass on that point but he applied the same law that I am relying upon as the basis for his decision. He took the case and took the points that the original patent was intended to be limited to. The claims were all intended to be limited to a tuner which was operated with levers and he did not consider claim [69] 5 in coming to that conclusion because claim 5 had been disclaimed. But he announced what the law was.

Now then if you apply the same law to the attempt now to secure by a re-issue patent a patent on a single radio tuner where the original claims all called for two tappets and two rockers except claim 5 which was not to be considered, why, his statement, the legal principle that he renounces governs exactly. In other words, there was no claim in this original patent which were claims 1 to 6, your Honor, as you can see them in the re-issue, there was no claim that didn't call for the two rockers and the two tappets except claim 5 and that claim is a nullity and must be treated as if it had never

(Testimony of LeRoy J. Leishman.)

been in the patent according to Judge Mathews' decision.

The Court: I think I will overrule the objection.

Mr. Flam: Just a minute. I might as well have this marked for identification.

The Clerk: Defendant's Exhibit M for identification.

(The document referred to was marked Defendant's Exhibit M for identification.)

Q. (By Mr. Flam): I think the model you are going to talk about now is marked Defendant's Exhibit M for identification. Will you please demonstrate that model to the court and explain it?

A. On this model we have a rocker arranged with an [70] opening similar to the rocker in the previous exhibit No. L-1, and the tappet is cut away and so shaped that the axis can come right into line with the axis of the roller in the manner demonstrated with Defendant's tappet, Exhibit L-2.

Now, on this device Exhibit M, the tappet is mounted on a plunger portion extending down from the lever.

Q. By "this device" you mean Exhibit——

A. Exhibit M. In the combination tuner shown in the patent, an extra tappet was mounted on the other side to co-act with another rocker shown on this model. But as the patent states the device was intended to be used for tuning in either a radio set or a television set or both. So, it was intended that you could use it this way if you are going to tune

(Testimony of LeRoy J. Leishman.)

in a radio set and this way the rocker that was identified as intended for tuning a radio set, although of course the other one could have been used just as well. Now, when this rocker is tilted and the tappet is loosened so that it is free to turn and take the position of the rocker you can put the rocker in any position you desire and bring this down and there isn't the slightest tendency for the tappet to turn. And the rocker will take or, the tappet which you are attempting to adjust will take the exact position of that rocker, certainly well within the limits required which this morning we demonstrated [71] to be $1/19$ of one degree. This is far more accurate than that. It can be observed. So, after the rocker has been positioned and the station tuned in and you press down on the button the tappet takes that position. Then you tighten it up and then no matter what station you have tuned in whenever you press that down again the rocker will return to the adjusted position with absolute accuracy and having the selectivity so far as mechanics are concerned, that we were discussing here this morning. Sets have had to become more and more selective to take care of more and more stations and the significance of this has become more and more important. I think that is sufficient explanation of the model, Mr. Flam, unless you have something else you want to ask.

Mr. Flam: I offer the model in evidence.

The Court: It will be received.

(Testimony of LeRoy J. Leishman.)

(The document referred to was marked Defendant's Exhibit M and received in evidence.)

Mr. Lyon: My objection applies to the re-offer, your Honor, without repeating it.

The Court: Yes.

Q. (By Mr. Flam): Now, in connection with that model, Mr. Leishman, does it make any difference in your device whether the tappet is moved in an arc to contact the rocker or whether it is moved in a straight line to contact the [72] rocker?

Mr. Lyon: I object to that, your Honor. The witness is asked if it makes any difference in his device. We have a decision here, two decisions of the Circuit Court of Appeals on the point and it is asking him for a conclusion without the facts being stated on which the conclusion is to be based and I think it is a conclusion of law when he asks him if it makes any difference in his device. I don't know exactly. It is not a very illuminating question, but if it is intended to be a statement derogatory of the court of appeal's decisions, why, I object to it as out of order.

Mr. Flam: I am not offering it in derogation of any opinion. I am trying to show here that there are other factors not considered by the Circuit Court of Appeals which makes it necessary for them to revise that opinion.

The Court: Objection overruled.

(Testimony of LeRoy J. Leishman.)

Q. (By Mr. Flam): Will you answer the question?

A. No, it makes no difference at all by what route or course the tappet comes into engagement with the rocker. [73]

I think that the models in the L series containing the rocker L-1 and the tappet L-2 demonstrate that you can bring it down in an arc or you can bring it down straight or you can bring it down from the other side and it is all the same story. It doesn't make any difference. It doesn't make a bit of difference to my device in the operation of the device, what path the tappet takes to and from that coaxial position. The point is, you have got to have it there when the adjustment is made and then you have got to move it out of the way so that the rocker can turn and when the device is to be tuned again the rocker has to be pushed down into engagement and the route, I think, is immaterial. We have a chart here which further illustrates that point.

Q. Will you demonstrate from the chart that point? A. Yes, sir.

Q. If you will.

A. Yes. (Showing document to Mr. Lyon.)

Q. (By Mr. Flam): May I ask the clerk to mark this for identification?

Mr. Lyon: May I see it for a moment?

The Court: What does the chart purport to be? I was looking at one of these models.

Mr. Flam: The title of the chart is the path of

(Testimony of LeRoy J. Leishman.)

the tappets to and from the coaxial position is optional with [74] the designer and I am having it marked for identification.

The Court: I suppose it is just illustrative of what the defendant has testified to?

Mr. Flam: Yes; and there are other points I would like to show.

The Court: It may be so marked, Mr. Clerk.

Mr. Lyon: May it be subject to the same objection, your Honor, that I made with reference to the last question?

The Court: Yes.

Mr. Lyon: Very well, your Honor.

The Court: This is simply used as an illustration but it is a part of his answer and you objected to it.

Mr. Lyon: Yes.

The Court: And I suppose your objection goes to this also?

Mr. Lyon: Yes.

The Clerk: Defendant's Exhibit N for identification.

(The document referred to was marked Defendant's Exhibit N, for identification.)

Q. (By Mr. Flam): Go ahead and explain it, Mr. Leishman.

A. The second figure from the bottom, it will be noticed, is the figure, the Figure 2 of the patent, colored so that the tappet is identified by the red color and the rocker is green and the lever or manual operable member is in [75] blue, and the path

(Testimony of LeRoy J. Leishman.)

that the rocker takes to and from the coaxial position is indicated by the curvilinear line passing through the center of the tappet and center of the rocker. Of course that curvilinear line will be an arc around the pivot as the center. Now, suppose you just turn the tuner around the other way. Then it would look like the figure at the bottom on this chart and you would have—and the path of the tappet would be exactly opposite from what the path is when it is oriented in the position shown in the patent. And I think it is obvious that it makes no difference to the operation of my device if you turn it around and have it face north instead of south and in that case the curvilinear path turns to the right in one case and turns to the left in another case and yet the device operates precisely the same and it makes no difference to the operation of the device whether the path turns to the left or to the right.

I think it is clear that any intermediate position would not affect the operation of the tappet. Then I have shown other modifications which I think also are obviously operable.

I have changed the shape of the lever here and pivoted the lever above the position shown in the patent drawing. In that case the path that the tappet would take to and from the coaxial position is indicated by the curvilinear [76] line passing through the center of the tappet in the second figure from the top on the chart.

(Testimony of LeRoy J. Leishman.)

In the figure at the top on this chart the lever has been extended and the curvilinear path is more nearly straight, but in all cases the tappet can be moved out of engagement with the rocker and it can be moved back into engagement with the rocker and no matter where you put the pivot of the lever the same thing will take place, whether you put it on this side or whether you put it on that side or whatever other guides you might make for the plunger portion—this portion of the tappet that extends down is a plunger, a reciprocating member that goes in and out of the rocker. Then on these flaps I have arranged the—I am in my own way here no matter how I turn. Mr. Flam, will you hold this one back for me if you don't mind? I have arranged it here so that you can just move another portion of the drawing so that it can be superimposed over the patent, over the enlargement from the patent drawing and that shows the tappet mounted on a plunger and, of course, that will take it straight up and down. It moves from the coaxial position shown out of engagement, and when you press it down it will move it back into engagement in a straight path which is the exact average between the path shown in the third figure from the top on this chart and the figure at the bottom on the chart. In this case guides [77] have been provided both above the rocker—the guides to keep the tappet moving in a rectilinear path instead of being curvilinear. In the other drawing it is rec-

(Testimony of LeRoy J. Leishman.)

tilinear and then on the other flap we have drawn the plunger so it passes all the way through the rocker, but the tappet in this case is shown mounted on the plunger and we have the guides above in this case and the other one is below the rocker. But the motion is just the same and I think that chart thoroughly demonstrates that it is absolutely immaterial to the operation of the device whether the tappet moves away from its coaxial position and back again in a curved path or how big the curve is and what direction the curve goes or whether it is a straight line which is an average of all the curves.

Mr. Flam: I offer the chart in evidence.

Mr. Lyon: Same objection as previously noted when the chart was offered, your Honor.

The Court: Same ruling. Objection overruled.

The Clerk: Defendant's Exhibit N in evidence.

(The chart referred to was marked Defendant's Exhibit N, and was received in evidence.)

* * *

Q. (By Mr. Flam): Do you have a file wrapper of the application which this——

A. The file wrapper of the original application in which the disclosure was first made is already on file as one of the exhibits in the motion for summary judgment.

The Court: I thought I saw it here.

* * *

(Testimony of LeRoy J. Leishman.)

The Court: It will be received and marked filed.

(The document referred to was marked Defendant's Exhibit O, and was received in evidence.) [81]

* * *

Mr. Flam: Your Honor, I offer in evidence the file wrapper and contents of Patent No. 2,108,538 granted February 15th, 1938, a certified copy.

The Court: Is that one of the divisional procedures?

Mr. Lyon: There is no objection to that. That is the application for the original of the patent in suit.

The Court: So ordered.

The Clerk: Defendant's Exhibit P in evidence.

(The file wrapper referred to was marked Defendant's Exhibit P, and was received in evidence.) [82]

* * *

Q. (By Mr. Flam): Can you point out to the court—I will withdraw that.

I offer in evidence a copy of that same patent.

The Court: A printed copy, is it?

Mr. Flam: Printed copy, yes.

The Court: It will be received.

(The document referred to was Marked Defendant's Exhibit Q, and was received in evidence.) [83]

* * *

(Testimony of LeRoy J. Leishman.)

Q. (By Mr. Flam): Mr. Leishman, in your testimony in connection with the Marschalk device, Defendant's Exhibit E, you show that the undesired rotation takes place when the tappet is freely pivoted and pressing upon the rotatable rocker on both sides of its axis and at the same time. I think you explained that you prevented that undesirable rotation by shaping and arranging a tappet and rocker so that they are coaxial when they are in this position in which the freely pivoted tappet presses upon both sides of the rocker.

Do you know of any other case in the automatic tuning art in which undesirable rotation is taking place when one freely pivoted member is pressed upon a rotated member, upon both sides of its rotational axis at the same time and that this undesirable rotation is eliminated by making [86] the parts to work coaxially? A. No, I don't.

Q. Do you know of any other case in any art in which undesirable rotation is taking place when one freely pivoted member is pressed upon another member on both sides of its axis at the same time and the undesired rotation was stopped by making the parts coaxial?

A. No, I don't know of anything of that kind in any art.

Q. Have rotatable parts ever been made coaxially for any other purpose?

A. Yes, they have been made coaxially for various purposes.

(Testimony of LeRoy J. Leishman.)

Q. What, for example?

A. Well, I think the most common reason for making parts coaxial is when you have two shafts coupled together and you want them both to turn. If they are not absolutely coaxial they will bind in their bearings. It is very difficult to get them lined up but if you can get them so that their axes are absolutely coincident then they will line up and there will be no difficulty arising—wouldn't be any binding in the bearings.

Q. What about other coaxial developments?

A. Well, the hands of a watch show a coaxial relationship. The minute hand is mounted on a shaft and the hour [87] hand is mounted on a hollow shaft or tube and they are made coaxial so that they can both use the same dial. To enable them both to use the same dial they are arranged with coincident axes and turn around and both use the same dial.

Q. Now, when there are two shafts to be coupled together is there any utility in a coaxial arrangement?

A. Yes, if they are not—if the axes are not in line—that is the meaning of coaxial, having coincidental axes—if they are not absolutely in line they will bind in their bearings.

Q. Here is Defendant's Exhibit J for identification. Will you point out to the court this last use of coaxiality?

A. Well, I can point out to the court the diffi-

(Testimony of LeRoy J. Leishman.)

culty that he might have overcome had he been able to arrange these shafts coaxially. As was pointed out in the patent, the condenser shaft was represented by No. 1 and the shaft in the tuner is shaft 9, I believe it was. It has to be coupled to the condenser shaft, and if they were coupled originally by a rigid coupling then the bearings of the shaft 9, in the tuner, would have to be lined up in perfect alignment with the bearings of the condenser so that they wouldn't bind in their bearings.

Now, because that is a difficult thing to do—of course that is the use of the coaxiality, and when you line them up, which is a common purpose for coaxiality, they [88] turn all right. On this device, however, a flexible coupling was used to take care of any mis-alignment. Flexible couplings that are on the model Exhibit I were also shown in the patent drawings.

Q. In what way does your use of coaxiality differ as described in your patent in suit?

A. My use of coaxiality was to prevent absolutely all rotation during the time you are trying to set the tappet. It is just exactly the opposite from these other uses of coaxiality. When you are trying to arrange two shafts so that their axes are coincident, it is so they will turn together and not bind, and my use of coaxiality was the exact opposite. It was to prevent absolutely all rotation of the rocker and tappet when you pressed the tappet firmly into engagement with the rocker so that the tappet takes the position, the same angular position of the rocker.

(Testimony of LeRoy J. Leishman.)

Q. Aside from this Schaefer tuner that you have before you, were any other automatic radio tuners on the market before yours went on the market?

A. Yes.

Mr. Lyon: I object, if your Honor please. There is no evidence that the device built in accordance with the patent in suit ever went on the market. And I think the evidence is to the contrary in all this litigation. [89]

Mr. Flam: I will reframe the question and ask whether there are any other tuners that came out after this Zenith-Schaefer tuner came out and before your patent was issued?

The Witness: Either shortly after the Zenith tuner appeared or about the same time there were some motor-driven tuners on the market of the same general class as that shown in the Jacke patent. They didn't operate in the same way but the motor turned the condenser and the dials in response to the pressing of buttons by the operator of the set.

Q. (By Mr. Flam): Now, how long did they stay on the market?

A. They were on the market only about two years too. They were in the market about the same length of time that this Zenith tuner, Exhibit I, was on the market.

Q. Did you state about when the Zenith tuner was on the market?

A. I think about 1927 and 1928 or '28 and '29. It was in the period between '27 and '29.

By the way, I have been referring to this as De-

(Testimony of LeRoy J. Leishman.)

fendant's Exhibit I. I am not sure whether that is Exhibit J or Exhibit I.

Mr. Lyon: It is Exhibit I.

The Clerk: I is the incomplete device.

The Witness: All right. This is I that I meant in the last instance. That is the one that has—I think in [90] answer to the last question I should have said J. That was the complete tuner.

The Clerk: H is the complete tuner.

The Witness: I is the one that has the single lever and that has the universal coupling.

Mr. Lyon: As I understand it, your Honor, H and I are the same thing except a lot of the duplicate parts have been taken out of I so that you can see one unit better in Exhibit I.

The Court: That is the way I understood it.

The Witness: That is right. [91]

* * *

Q. (By Mr. Flam): When did tuners using the coaxial tuner and tappet construction first come on the market?

A. They came on the market in either the latter part of January or the first part of February, but the first announcement of them that I know of was in the January 26th number of Radio Retailing, which is in evidence here as one of the exhibits with the motion that I filed before Judge Yankwich for summary judgment.

The Court: Will you read the answer, Mr. Reporter?

(Answer read.)

(Testimony of LeRoy J. Leishman.)

The Court: In what year was that?

The Witness: January 26th, 1938. That is Radio Retailing. I have the name of that wrong. I think it is Radio Weeekly. Is it not "Radio Weekly"? I am sorry. There is another magazine.

Q. (By Mr. Flam): Is this the issue you have in mind?

A. That is the issue, yes.

Q. I would like to have you point out to the court where that advertisement appeared in that issue.

A. It wasn't an advertisement. It was an announcement of Crosley's development of a new type of push button [92] radio. The article begins on page 1 and is continued on page 10, where a picture of the complete set is shown. Of course this doesn't show the internal mechanism but the set was a very common article of merchandise later. We had some of them as exhibits in the Associated case.

Mr. Lyon: Your Honor understands "Crosley" is the name of the manufacturer and "Associated" was a store here in Los Angeles that was selling Crosley sets?

The Court: I didn't know that, but I do know of the Crosley Company.

Mr. Flam: I think the Associated was a distributor and not a store.

Mr. Lyon: Well, it was a concern here in Los Angeles selling Crosley sets.

Mr. Flam: Yes, they were in the nature of dis-

(Testimony of LeRoy J. Leishman.)

tributors rather than a store. I offer that page of the Radio Weekly in evidence.

The Witness: Two pages.

Mr. Flam: I don't know the number of the pages.

The Witness: 1 and 10.

Mr. Lyon: I don't think I have any objection, your Honor, except I would like to clear up one point. Does counsel contend that that publication mentions this feature of coaxiality?

Mr. Flam: Well, the publication will speak for itself. [93] It is in evidence.

Mr. Lyon: There was something in the question about coaxiality, and I don't know whether the answer is to be taken that that publication mentions coaxiality or describes coaxiality. I don't think it does.

The Witness: Was I supposed to clarify that answer?

Q. (By Mr. Flam): Did you know that this article referred to a construction of that kind—coaxial tappets and rockers?

A. As soon as it came on the market I went down to the local jobber for Crosley Corporation, the Associated Wholesale Electric, and asked to see one of the sets and they said that that was a little premature; they thought there was only one of them built but they would have some maybe in a week or two, and so I went down in a week or two to see what it was like. Of course I had no

(Testimony of LeRoy J. Leishman.)

idea what the internal mechanism of that device was.

I was very much interested in knowing because I had had some dealings with the Crosley Corporation and then later I saw on a subsequent visit, about two weeks after this magazine appeared on the market or maybe even less, one of those tuners in one of those radio sets, and I examined it and found that it contained the coaxial rockers and tappets of the same type that were considered in the Associated case and which the court said were equivalent of [94] my rockers and tappets.

Mr. Lyon: I object to the last statement as to what the court said. I would like to stipulate that the device referred to in the publication before your Honor was the device that was passed on by the Circuit Court of Appeals in the Associated case and reported in 137 Federal. Will you so stipulate, Mr. Flam?

Mr. Flam: Will you read the stipulation?

(Stipulation read.)

Mr. Flam: That is true. So stipulated.

The Court: The objection is overruled. I am not indicating whether there is a sufficient description of a coaxial feature or not. I have read the article and know what it says. It will be marked as an exhibit.

The Clerk: Defendant's Exhibit R in evidence.

(Testimony of LeRoy J. Leishman.)

(The document referred to was marked Defendant's Exhibit R, and was received in evidence.)

Q. (By Mr. Flam): Now, aside from these tuners that you mention that were on the market before the Crosley device came out, were there any others, any other types of tuners?

A. Well, about 1936 the motor-driven tuners re-appeared on the market. I don't know that they were exactly the same construction as those that appeared some seven or nine years earlier, but they were motor-driven tuners that [95] were introduced on the market about 1936. They were for sale in 1936. And also about that same time the so-called telephone-dial type tuners appeared on the market.

Q. Can you find any patents in this book of patents that we have had to illustrate the telephone-dial type of tuner? I want to call your attention to No. 17, I think, or No. 16.

A. Yes. No. 16 shows a patent issued to Fitzgerald and it shows a dial resembling in a general way, the dial on a telephone, and the patent to Underwood is of a similar construction, but instead of putting your finger in little recesses or holes as you do on the Fitzgerald device, it is provided with a lever that you would turn in the same manner that you would turn your finger in operating the Fitzgerald mechanism. [96]

(Testimony of LeRoy J. Leishman.)

The Court: The Underwood patent is No. 17, isn't it?

The Witness: Yes, that is right, your Honor. Underwood is 17.

Q. (By Mr. Flam): Did any of these devices that you designate as telephone dial type come into commercial use?

A. Yes; they became quite common in 19—well, they were first introduced and used in a limited way in 1936 and they became very common in 1937. Most manufacturers used them in their lines.

Q. Now, what made it possible for them to—do you know what made it possible for them to become so popular in the later years?

A. Well, in and of themselves they weren't accurate at all. They were not commercially usable but they appeared in 1936, both the motor driven tuners and the telephone dial type tuners because about 1936 an electrical circuit was developed, called automatic frequency control, which compensated electrically for the mechanical inaccuracy in these tuners. Fitzgerald's mechanism was very inaccurate and the motor driven tuners were not of sufficient accuracy—didn't provide the selectivity required, but if you got into the approximate position, if you turned the dial by means of the automatic tuner to just approximately the right position the automatic frequency control would electrically [97] pull the circuits into tune and that made it possible to use tuners that were other-

(Testimony of LeRoy J. Leishman.)

wise inaccurate and which hadn't been commercially usable before.

Q. Were they entirely satisfactory? I mean the telephone dial type with the automatic frequency control circuit?

A. Well, with the mere addition of the automatic frequency control circuit they were not entirely satisfactory. In fact no matter what they did with them they were not entirely satisfactory. There was one difficulty they had that would seem to be inherent in the automatic frequency control circuit itself. It is very easy to explain.

Suppose that you were trying to tune in a station that was quite close to KFI but you happened to get the dial mechanically closer to the station that you wanted to tune in than to the position at which KFI should come in on the dial, but we will say you are fairly close to KFI and it had a stronger signal and it would drown out the other one and then the automatic frequency control would pick up the stronger signal and tune in KFI.

Because of that the automatic frequency control circuit would frequently bring in the wrong station rather than the one you wanted—it would favor the strong signal rather than the station you were more closely approaching [98] so far as the angular position of the dial was concerned.

Then there was another feature of the telephone dial type of tuner that most of the manufacturers tried to eliminate. In fact they did eliminate it by

(Testimony of LeRoy J. Leishman.)

circuit arrangements. When you tune one of these telephone dial type tuners or when you tune one of the motor driven tuners the dial turns relatively slowly and as you pass by various stations each station gives out a blurt, blurt, blurt until you get around to it. I don't know whether the reporter got all the blurts or not—until you get around to the station that you want and some of them were very blatant and it was very annoying to have these stations do that.

So muting devices were arranged so as soon as you put your finger on one of the buttons or holes preparatory to rotating the dial the set would immediately be turned off and wouldn't come back on again until you removed your finger. So, muting circuits were added to the sets to take care of that feature and the automatic frequency control circuit compensated electrically for the mechanical inaccuracy, but they never did find a way that I know of, to solve the matter of keeping the automatic frequency control circuit from at times bringing in the wrong station.

Q. (By Mr. Flam): What company do you remember marketed the telephone dial tuner in 1936 and 1937?

A. In 1936 there were only two or three concerns that [99] came out with them. The first, I believe, was Philco. We have their announcement here as one of the exhibits, and Grigsby-Grunow also introduced one in 1936.

(Testimony of LeRoy J. Leishman.)

Q. Is this the announcement you have in mind about the Philco telephone dial type of tuner?

A. That is a photograph of the folder, folded in such a way that it shows all the pages of the original folder. I picked one up at the American Radio Company then located between Broadway and Hill on 8th Street. Their stamp is on the back of this folder and it shows in the photograph.

The Court: May I see it?

Mr. Flam: I offer the Fitzgerald patent re-issue 20357, the Underwood patent 1834272 and this Philco circular in evidence.

The Court: It may be received.

The Clerk: The Fitzgerald patent will be Defendant's Exhibit S; the Underwood patent will be Defendant's Exhibit T and the Philco advertising folder will be Defendant's Exhibit U in evidence.

(The documents referred to were marked Defendant's Exhibits S, T, and U and received in evidence.)

Mr. Lyon: Mr. Clerk, will you tell me what Exhibit R is? [100]

The Clerk: Defendant's Exhibit R is page 1 and page 10 of the Radio magazine.

Q. (By Mr. Flam): Were motor driven tuners and telephone dial tuners used in the succeeding year's models?

A. Yes, they were very common in 1937. Most manufacturers put out one or the other. The tele-

(Testimony of LeRoy J. Leishman.)

phone dial tuner being naturally the cheapest was the most popular.

Q. How about 1938?

A. No, they came out in—they were 1938 models but the 1938 models were nearly always shown at the radio show in June, the national radio show and so the 1938 models would always be announced—were announced in 1937.

Q. Do you have anything that will show how extensive the use of such tuners was in 1937?

A. There is a page in the book of exhibits in the Associated case, volume 3, that is a re-print of, I believe, page 21 of the June number for 1937 of Radio Retailing and it shows a double spread containing a picture of the dials and controls on the new sets that were coming out and there is an account there of the popularity of the type of these sets—of the sets of this type, rather.

There is a volume, Mr. Flam, in that case on the table there. [101]

* * *

The Clerk: Defendant's Exhibit V for identification.

(The document referred to was marked Defendant's Exhibit V for identification.)

Q. (By Mr. Flam): Do you want to comment on this Exhibit V, Mr. Leishman?

A. I think it speaks for itself unless his Honor wants to look at it. It shows 1938 sets of the tele-

(Testimony of LeRoy J. Leishman.)

phone dial type and the push buttons for the motor driven tuners.

The Court: I shall look at it later on when the photostat is in the record. I am familiar with the machine because I had one of the earlier Philcos at my home.

The Witness: It had automatic frequency control.

The Court: Yes.

The Witness: Magnetic tuning they called it.

Q. (By Mr. Flam): Do you have any issues of Radio Retailing for June, 1937, that shows these same devices?

A. No. That is a re-print from page 21 of the June number of Radio Retailing but the only copies of the magazine [103] that I have ever had in my possession are now on file in the Oklahoma case before the Tenth Circuit Court of Appeals as exhibits.

The Court: Was the case in Oklahoma appealed?

The Witness: Yes, it was appealed and the record has been printed and the appellant has already filed its brief and we were due to file ours next week in printed form but due to this case we have asked for an extension of 30 days to give us time to prepare it.

The Court: You had better file it. I don't think you need to worry about this case until it is filed there. I would like to see what the Circuit Court of Appeals there says about it.

(Testimony of LeRoy J. Leishman.)

Mr. Flam: That is quite impossible for us to do unless you continue this trial.

The Court: I am not going to continue it now. I think it might have been continued but it wasn't. However, I am not going to decide this case until you have sufficient time to prosecute your appeal or the other side does.

Mr. Flam: I think Judge Yankwich was very adverse to any continuance.

The Court: He was but he isn't trying the case now. I am controlling the case now.

Mr. Flam: It isn't too late. I would like to ask for a continuance now. [104]

The Court: Now, I am not going to continue it at all but I am not going to decide it either until you have an opportunity to have the Tenth Circuit Court of Appeals pass on it.

You have a decision from the Ninth Circuit—you have two decisions from the Ninth Circuit and I want to know what the Tenth Circuit says about it.

Q. (By Mr. Flam): Do these sets shown in this circular have automatic frequency control circuits?

A. All of the telephone dial type tuners that made any claims to accuracy used the automatic frequency control circuits because they couldn't be used in populous areas at all and have the selectivity we talked about this morning, unless they were equipped with automatic frequency control.

(Testimony of LeRoy J. Leishman.)

Q. I show you this book entitled "Automatic Frequency Control Systems" by John F. Rider, including the jacket. What has that got to do with the automatic frequency circuit controls that you have been talking about?

A. The jacket or book? You mentioned the jacket and the book.

Q. The jacket and the book.

A. Why, the jacket——

Q. What was the book for? Did it have anything to do with these automatic frequency controls that you are talking about? [105]

A. Yes. This book was put out to acquaint service men in the radio industry throughout the country, with the automatic frequency control systems so that they could repair these sets and so that they would understand them. That was the purpose of the book.

Q. What are those pictures on the jacket? Can you identify them?

A. The pictures on the jacket are of more telephone dial tuners and the dials of some motor driven tuners that were common at the time the book was published. This book, of course, speaks for itself but it shows that it was originally printed in October of 1937. It was copyrighted in 1937 by John F. Rider.

Q. I would like to have you identify those features which are particularly pertinent in connection with this—with the importance of utilizing automatic frequency control circuit with the telephone

(Testimony of LeRoy J. Leishman.)

dial type of radio tuning. I don't want you to read it. I just want you to note the pages so that the court may read them afterwards.

A. Well, in the foreword there is page 7 and page 8 designated by Roman numerals—small Roman numerals and then in the introduction pages 1, 4 and 5 in the text of the book and page 63; pages 87 to 92. Pages 100, 102, 127, 128, 129, 131 and 141.

Mr. Flam: I offer those pages of the book referred [106] to by the witness in evidence and the cover.

The Court: They will be received as Defendant's Exhibit W and Exhibit W-1.

(The documents referred to were marked Defendant's Exhibits W and W-1 and received in evidence.)

Mr. Lyon: May we borrow that book for this evening?

Mr. Flam: Oh, yes. It is in evidence. I will stipulate that you may have it.

The Witness: Is the jacket going to have the same reference number. I should think it would be well to have an independent number.

The Clerk: They have been numbered Defendant's Exhibit W and Exhibit W-1 in evidence.

* * *

Q. I think yesterday, Mr. Leishman, you testified about certain advertisements and circular show-

(Testimony of LeRoy J. Leishman.)

ing the kind of automatic tuners that were in general use on the market in 1936 and 1937.

Did you do anything that made you acquainted still further with what was happening in this particular industry in 1937?

A. Yes. I made a trip from Los Angeles to Chicago and points east of there to call on radio manufacturers to interest them in another tuner of mine.

Q. Just exactly when was that, do you remember?

A. I left Los Angeles in July and I returned late in [110] September.

* * *

Q. (By Mr. Flam): Can you tell us what happened in connection with your trip that would throw light on what the radio industry was doing?

A. I called on a rather large number of manufacturers of radio sets and two manufacturers of radio parts who were then manufacturing a telephone dial type of tuner. And of course I had discussions at the plants with the engineers, sales managers and in some cases the heads of the companies.

Q. Can you explain what reaction—I will withdraw that. Did you try to interest them in any type of tuner?

A. I tried to interest them in a tuner that I was ready to commercialize before the original patent issued [111] on the type of tuner here in suit. The patent on this particular tuner that is now in litiga-

(Testimony of LeRoy J. Leishman.)

tion had not yet issued and without any patent protection on it whatever I was not personally disclosing the construction of that device, but I had another tuner, one feature of which was covered by a single claim in my first patent issued in June of 1937. It was that tuner in which I was trying to interest the radio industry at that time.

Q. Now, do you know whether——

Mr. Lyon: If your Honor please, I don't want to interfere but I think we shouldn't take the witness's statement that he disclosed a tuner covered by a claim of another patent. I am satisfied, to save time, if he will identify the claim and the tuner because I don't know whether the tuner is covered by that claim. That requires a legal conclusion.

Mr. Flam: I wasn't trying that patent at all. It was merely a matter of identifying or explaining what this witness did in the summer of 1937. I don't think it is necessary to interpret the patent.

The Witness: Perhaps if I rephrase my answer it would satisfy Mr. Lyon.

Q. (By Mr. Flam): Go ahead.

A. I, of course, was the owner of the patent that issued in 1937 and in my opinion I had some protection by [112] virtue of one claim in that patent so I was reasonably safe in showing the tuner that I was displaying in 1937.

Mr. Lyon: If your Honor please, may we have that patent and claim identified and something to show what the structure was that he actually dis-

(Testimony of LeRoy J. Leishman.)

closed—whether it was a model or a drawing so your Honor can see whether his conclusion is correct or not.

The Court: Read the answer, Mr. Reporter.

(Answer read.)

The Court: What claim is it you refer to?

The Witness: I don't remember the claim now but I could identify it if I went over all the claims in that particular patent. I haven't had any occasion for over 10 years to refer to that claim but it was my patent number 851 and I gave that—that was the first patent that issued on the application that I filed in 1934 from which the application on the patent here in suit was divided.

Mr. Flam: I think I can find it in this book.

The Witness: It isn't in there, Mr. Flam. I have some copies here of the patent in court and I could look it up during the recess or at noontime and I think it would be better if I did it at noon so I could definitely identify the claim. However, I think it may develop that it has no particular materiality.

Mr. Lyon: I think the file wrapper of 851 patent is in [113] evidence as Exhibit O. Perhaps that file wrapper contains a copy of the patent that you are talking about.

The Witness: I think it does and I am quite sure I have copies of the patent here in my papers on the table.

Mr. Flam: Here is a printed copy of that patent,

(Testimony of LeRoy J. Leishman.)

Mr. Leishman, in Exhibit O. Maybe you can clear up the matter now and if you can please do so.

A. You mean you want me to try and find that claim now?

Mr. Lyon: I am not in a hurry about the claim if we can know what the structure was that was disclosed by Mr. Leishman on the occasions stated. I wanted it to appear clear to the court that he didn't disclose the structure of the patent in suit or any structure that had his feature of coaxiality in it.

The Witness: I am willing to agree to that. I didn't want them to have any information pertaining to it whatever and that I very carefully refrained from any such disclosure and that the feature of coaxiality is not shown in issued patent 2,084,851.

The Court: That was the purport of his answer before, I thought, when he stated that the patent application was pending and he didn't feel as though he should disclose anything to the manufacturers.

Mr. Lyon: That is satisfactory to me. I just wanted it [114] to be known so there was no question about it, your Honor.

Q. (By Mr. Flam): As a matter of fact, Mr. Leishman, that model—first of all did you exhibit any model or device to them in connection with this thing that you were trying to license them on?

A. Yes, I did.

Q. Can you explain just about what that model

(Testimony of LeRoy J. Leishman.)

looked like? And I call your attention to this exhibit here that was filed in connection with your summary judgment.

The Court: What is that?

Mr. Flam: I had better have it marked for identification.

The Witness: This was an exhibit——

Mr. Flam: Just a minute. Let the clerk mark it, Mr. Leishman.

The Court: This is a new one. This is the first time it has been presented.

The Witness: Yes. It was filed with the motion for summary judgment.

The Court: Let it be marked for identification.

The Clerk: This is Defendant's Exhibit X for identification.

(The document referred to was marked Defendant's Exhibit X for identification.)

Mr. Lyon: As I understand it this is not the model [115] that was actually shown by the witness on the occasion stated.

Mr. Flam: That is the understanding.

Mr. Lyon: Is this supposed to be a model of 851, Exhibit O?

The Witness: No, it is not. In fact, there was only one feature of the model that I displayed to the radio industry in the summer of 1937 that is in any way covered by any claim of patent No. 2,084,851, and the internal mechanism, the automatic tuning mechanism is very different to that shown in

(Testimony of LeRoy J. Leishman.)

2,085,851 patent. So, the tuner, that I disclosed to the radio industry in the summer of 1937 had only one feature in common with the structure shown in this 851 patent, if we may abbreviate the number that way. And that was the means of having access to the set screw from the outside of the set.

Q. (By Mr. Flam): Set screw for what?

A. The set screw for adjusting the tuner so that it could bring in particularly desired stations.

Q. (By Mr. Flam): Now, that model you have in your hand now, Exhibit X for identification, did it have anything in common with the model you had with you in the summer of 1937?

A. Yes, it does. This operates on the same principle and is the same type of tuner and in my estimation, which I [116] don't think has any legal bearing for this purpose, was covered by the patent that subsequently issued on the tuner that I was then showing to the radio industry.

This particular tuner was manufactured by Gilfillan Brothers in Los Angeles under the patent that issued on the tuner that I was showing in 1937.

Mr. Lyon: Can we identify that patent, your Honor?

The Court: Yes.

Mr. Lyon: I think we shouldn't have a conclusion of the witness that something "is covered by a patent."

The Court: What patent are you referring to as

(Testimony of LeRoy J. Leishman.)

being the one under which Gilfillan was manufacturing?

The Witness: That patent ended with the number 343, but I don't think there is any feature of that that is pertinent here because we are not claiming that that patent is infringed by any of these litigants; and whether or not the claims do cover this tuner seems to me are immaterial.

Mr. Lyon: If your Honor please, I would like to shorten my objection and have a copy of that patent identified and made of record because otherwise we just have the witness' statement that he showed a device which was covered by a patent which is not here, and which we don't have the full disclosure of.

Mr. Flam: It wouldn't be pertinent. If it is pertinent we would be glad to produce it. I think Mr. Leishman can identify the patent if given a little time.

The Witness: I can furnish plenty of copies to him. I have copies of most of my issued patents at home and I know I have several copies of that. But the only point that I had in mentioning that was that the principle of operation of this tuner is the same as the principle of operation of the tuner that I disclosed in 1937 and operates in the same manner. That was why I referred to that patent.

Mr. Lyon: I have a copy of the 343 patent here and we can settle my objection if the witness will identify it and it will be put in the record.

(Testimony of LeRoy J. Leishman.)

The Witness: I think it will be very helpful if we have that because we can clear up several of these matters with it.

The Court: May I see the model for a moment?

The Witness: This has little levers and you press down on the buttons to operate it. It may be that your hand is holding part of the mechanism against turning. There is a dial on the front that has to move up and down—a pointer. You are probably not pushing it hard enough.

Q. (By Mr. Flam): Mr. Leishman, I hand you a copy of patent No. 2,163,343. Is that the patent that you were talking about as being of pertinence in connection with this Exhibit X?

A. Yes. And also pertinent in connection with the [118] tuner that I was showing to the industry in 1937.

This patent was applied for in July, 1937, while I was away on this trip—away from Los Angeles, and it shows the structure of the tuner that I was then showing to the industry. And we can readily show the feature that this tuner has in common with the tuner shown in 851 patent if we will refer to Figure 1 in the 343 patent and figure 1 in the 851 patent.

It will be noticed that on the front panel, G, through which the type of the lever, F, protrudes in each case; that below the lever there is a member, O—member, M, which holds a little index tab, O. That index tab covers up a hole, U, in the front

(Testimony of LeRoy J. Leishman.)

of the panel of the set and when the index tab is removed it is possible to put a screwdriver through the aperture, N, in the member M and through the hole, U, so that it can be inserted in the head of the screw, R, in member A shown in dotted lines in the tuned in position.

Whenever the lever is pressed down in this 851 device it brings the screw in a position with this hole, U, and the screw is therefore accessible through that hole.

In the 343 patent that feature is shown and it was a claim on that feature alone which I felt justified in my disclosing the structure of the 343 patent to the radio industry because I figured, whether it was right or wrong, [119] that I had some measure of protection and I personally felt justified in disclosing that structure. [120]

* * *

The Court: Counsel wanted the production of the patent under which it was asserted that a model exhibited in 1937 was formulated or made up and now he has produced a patent here. [123]

Mr. Flam: If you wish you may introduce that patent in evidence on the testimony of the witness. I have no objection to it.

Mr. Lyon: The witness has identified the patent and has it in his hand and I will ask that it be received in evidence, your Honor.

Mr. Flam: I have no objection.

(Testimony of LeRoy J. Leishman.)

Mr. Lyon: I don't know whether it should be my exhibit or Mr. Flam's exhibit.

Mr. Flam: You asked for it. It doesn't make any difference. We will mark it as a defendant's exhibit and offer it in evidence for the defendant.

Mr. Lyon: Exhibit Y.

The Clerk: Exhibit Y, yes.

Mr. Lyon: And the number of the patent so it will appear in the record at this time is 2,163,343.

The Court: It will be received.

(The document referred to was marked Defendant's Exhibit Y, and was received in evidence.) [124]

* * *

Mr. Flam: Now, in what way did that model you exhibited to the industry in 1937 differ, if any, from this model, [125] Exhibit X?

A. In the first place, the levers in the tuner that I exhibited to the radio industry were pivoted in a different place. Levers can be pivoted at any place and these levers on the tuner Exhibit X, are pivoted between the operating end and the end that engages the angularly adjustable member on the inside. When you press down on the lever on the outside the opposite end of the lever engages the adjustable member.

Q. Was that model there smaller or larger?

A. It was larger in bulk than this. And instead of—I have explained how the adjustment was made on the tuner that I showed to the radio industry.

(Testimony of LeRoy J. Leishman.)

On this there is a different arrangement. One single screw is accessible from the back of the set and is used for setting all of the positions and members, angularly positionable members in their proper position, but the method of operation, the relative shape of the cams or positionable members, rather, and the idea of engaging the positionable members on one side of the axis and rotating it until a portion on the opposite side of the axis engages the manually operable member was the same.

Q. Now, to whom did you first talk to on this eastern trip?

A. I first went to the Crowe Name Plate & Manufacturing [126] Company.

Q. And where were they?

A. In Chicago, Illinois.

Q. The firm name is Crowe Manufacturing Company?

A. The firm name of that company has now been changed to Crowe Name, Incorporated. That was the first firm that I visited. They were manufacturing automatic tuners for the industry and were the leading manufacturers at that time of telephone-dial type tuners. [127]

* * *

Q. (By Mr. Flam): Who, in the Crown Name Plate Company, discussed the tuner situation with you at that time?

A. The first person that I talked to was Marvin Lane, the sales manager. I later talked to Mr. H. Z.

(Testimony of LeRoy J. Leishman.)

Benton, the chief engineer, and another engineer there by the name of Johnson. At other times I talked to Winslow Goodwin, who was the head of the radio section of the Crowe Name Plate Company. And I talked to the comptroller of the company, Mr. Cagey, and to the president of the company.

Q. What was his name?

A. Mr. E. C. Coolidge.

Q. And these discussions took place where?

A. They took place at the plant of the Crowe Name Plate and Manufacturing Company at 3701 Ravenswood Avenue, Chicago.

Q. And about what time—what date as closely as you can remember?

A. There were various discussions. The first one was early in July because I left here right after the 4th of July—I think I left here about the 5th in 1937, and the first place that I called when I went to Chicago was the Crowe Name Plate and Manufacturing Company. [128]

* * *

Q. (By Mr. Flam): As far as you can recollect of your conversations with each one of these persons you have named, what were your conversations?

A. My first conversation was with Mr. Marvin Lane and my object in talking to him——

Mr. Lyon: I object to that.

Q. (By Mr. Flam): Don't say what your object was. Relate the conversations as nearly as you recollect.

(Testimony of LeRoy J. Leishman.)

A. My conversation with him dealt primarily with the tuner that I was showing them—that I was trying to get them to manufacture. And Mr. Lane stated that he thought it was a very fine tuner and much superior to the tuners that the radio industry was using. And he wanted me to show it to Mr. Johnson.

I did show it to Mr. Johnson. Mr. Johnson expressed the same opinions that were expressed by Mr. Lane. And Mr. Lane said that, unfortunately, the head of the radio department, Mr. Goodwin, was then in Europe and that they [130] weren't in a position to take a license from me until he returned.

I had already told Mr. Lane that I would not give them an exclusive license; the best kind of license I would give them would be an exclusive license to manufacture them for resale to other radio manufacturers, but that I wanted to reserve the right for myself to license radio manufacturers who manufactured their own tuners. So, Mr. Lane said that since I was going to call on other radio manufacturers anyway, that I had perhaps better go on my tour and call on these various manufacturers and that they would check on the reactions—that is the Crowe Name Plate & Manufacturing Company would check on the reactions from the industry and that by the time I returned to Chicago Mr. Goodwin, the head of the Radio Department, would have returned from Europe and I could talk to him then

(Testimony of LeRoy J. Leishman.)

and they would be in a much better position to talk to me because they would have the reactions of the industry.

Shall I tell now what happened when he came back, or do you want this in chronological order?

Q. Go ahead and make as clear a chronological statement of the conversations as you can.

A. Well, the other conversations at the Crowe Name Plate and Manufacturing Company took place after I had called on various other radio manufacturers. [131]

Q. Well, you may go into that now.

A. The conversations with other radio manufacturers?

Q. No, with Crowe Name Plate.

A. Well, the other conversations at the Crowe Name Plate Company took place after I had returned from calling on most of the principal radio manufacturers in the United States.

Q. When was that?

A. Between the early part of July and September 17th, 1937.

Q. I mean when did these later conversations take place with the Crowe Manufacturing Company?

A. After I had returned to Chicago.

Q. When was that?

A. From calling on various manufacturers in Chicago, Indiana, Michigan, New York and Ohio.

Q. When did you have this conversation with the Crowe Name Plate people after you contacted these other manufacturers?

(Testimony of LeRoy J. Leishman.)

A. It would have been between Labor Day, 1937, and September 17, 1937.

Q. And were they at the same place at the plant of the Crowe Name Plate Company?

A. That is right.

Q. And who were present at those conversations?

A. At the first conversation Mr. Lane was present and he introduced me to Mr. Goodwin and Mr. Lane told me that they had checked through their representatives and found that my tuner had made a great impression and that they were interested in discussing a license with me.

I might say that in the earlier conversations Mr. Lane told me that he thought he could expedite my visits to these various manufacturers by telling me the relative importance of the various manufacturers and in some cases they made private brand sets and he told me who they manufactured for and what parties it would be best to see at the different plants. And, of course, I had done that and when I returned to Chicago Mr. Lane introduced me to Mr. Goodwin. [133]

* * *

Q. (By Mr. Flam): You mentioned, Mr. Leishman, that the Crowe Name Plate Company seemed to be interested in obtaining a license. [134]

A. Yes, they were. And they signed a license with me on September 17, 1937, and I filed photographic copies of it here in the court in connection with my motion for summary judgment. That

(Testimony of LeRoy J. Leishman.)

license speaks for itself, I guess, excepting in one respect, if I may——

* * *

Mr. Flam: Your Honor, the original of this license agreement has been introduced in evidence in the Oklahoma City court and the best we could do is to have a photostat of it here. If Mr. Lyon has no objection we will use that.

Mr. Lyon: I have no objection on the ground it is a photostat but it seems to be incomplete because it refers to the "device illustrated in the accompanying photograph of the patent drawing" and I don't know what those drawings are and they seem to be a very material part of this license. Can you supply those? If you can I am perfectly willing to accept the photostatic copy.

Mr. Flam: In order to cut this short and get along, [135] the blueprints of the patent application drawings were attached.

Mr. Lyon: What patent?

Mr. Flam: I am trying to identify it for you. I think I can ask Mr. Leishman.

Q. Do you know what that patent application drawing was that was attached to Exhibit Y?

A. Yes; the drawing mentioned in the license of September 17, 1937, to Crowe, incorporated as a part of it the drawings of the 343 patent. The two sheets of drawings were attached to that license agreement and made a part of it.

Mr. Lyon: With that understanding I have no

(Testimony of LeRoy J. Leishman.)

objection to this photostatic copy, your Honor.

The Court: It may be marked as an exhibit.

Mr. Flam: Will you mark this?

The Clerk: In evidence?

The Court: Yes, it is already in the record on the motion for summary judgment but I presume it had better be marked in this record.

The Clerk: Defendant's Exhibit Z in evidence.

The Court: My understanding is, gentlemen, under the new rules that where instruments are received by the court on motions for summary judgment, they become a part of the record in the case. Do you gentlemen understand differently?

Mr. Flam: I think your Honor is right. We are introducing [136] them to get a coherent——

Mr. Lyon: My understanding is they are of record in the case but I don't believe that they are evidence at the trial unless they are offered and received in evidence, because this was a motion brought by Mr. Leishman, this summary judgment motion, and it was denied and there was no procedure which would determine whether each and all of the documents and things that he exhibited in connection with his motion were proper evidence.

The Court: Well, there may be some doubt about it. I presume it is better to re-offer them here. You may proceed.

Q. (By Mr. Flam): You stated that after your first series of conversations with Crowe Name Plate Manufacturing Company you visited the plants of

(Testimony of LeRoy J. Leishman.)

other radio manufacturing companies, is that right?

A. That is correct.

Q. Can you name which ones you visited?

A. I have made a list of them, if I may refer to that list I can give you the names much quicker.

Q. Go ahead.

A. Belmont Radio Corporation of Chicago. Galvin Manufacturing Company of Chicago, manufacturers of Motorola receivers. The Stewart-Warner Company.

Then I called at Montgomery Ward. They were not radio manufacturers. [137]

Q. Was that in Chicago?

A. Yes, Montgomery Ward of Chicago. They were not radio manufacturers but they sold a private brand line of radio sets manufactured for them by Wells-Gardner Company and Belmont Radio Corporation. The Erla Manufacturing Company, the manufacturers of the Admiral radio. I am not certain of their corporate name. The General Electric Company, Westinghouse Electric & Manufacturing Company. Their headquarters were in New York. General Electric was in Schenectady.

The previous firms that I mentioned were all in Chicago. Noblett Sparks of Columbus, Indiana, manufacturers of Arvin radios. The Clinton Manufacturing Company of Chicago. Fairbanks-Morse of Indianapolis, Indiana, the manufacturers of the Fada radio in New York and then I called on the Andrea concern. I don't remember whether it is Andrew Company or Andrew Manufacturing Com-

(Testimony of LeRoy J. Leishman.)

pany, a corporation. The Emerson Radio Corporation. The American Bosch Magneto Corporation and the Crosley Corporation.

Q. Now, where was the Crosley Corporation's place of business that you visited?

A. May I add one thing to the answer to your last question?

Q. All right.

A. If it is not pertinent just tell me. I tried to [138] call on—I tried to see the people at the Delco division of the plaintiff. I don't want them to feel slighted that I didn't think they were important manufacturers. I went to Kokomo but the party I was supposed to see wasn't there. I did show the tuner to some members of the concern but I don't think they had any official standing. Now, what was your other question?

Q. You mentioned that you visited the Crosley Company. Where was the plant that you visited?

A. The Crosley Manufacturing Company or the Crosley Corporation, rather, is located in Cincinnati, Ohio.

Q. When did you have conversation with anyone there at Crosley?

A. I first called at the Crosley plant on my way from Chicago to Washington. I visited Washington on that same trip and then later, after having been to Washington and New York and Buffalo and Detroit——

Q. Now, let us take these conversations one at

(Testimony of LeRoy J. Leishman.)

a time. When was the first time that you had a conversation?

A. Well, the first visit was——

Q. Do you have anything that might refresh your memory as to what it was?

A. Well, I can probably find my hotel bills——

Mr. Lyon: There isn't any——

The Witness: It would be—— [139]

Mr. Lyon: There isn't any doubt about when the date was. I mean there is no dispute about it. We can fix it from his prior testimony, I think.

The Witness: It would either be late in July or early in August.

Mr. Lyon: There is no dispute about the date, your Honor.

Q. (By Mr. Flam): And with whom did you speak or have conversations at that time?

A. My first conversation was with Mr. Fred Johnston, the chief radio engineer. And I also spoke with Mr. Kellogg who was a distributor for some of the sets of the corporation and I talked with Mr. Powell Crosley the third.

Q. That was at the first conversation?

A. That is on the first conversation.

Q. Now, can you state as accurately as you can what was stated in that conversation?

A. I, of course, demonstrated the tuner to Mr. Johnston and Mr. Johnston——

Mr. Lyon: Is that the tuner—is it the same tuner you have referred to as shown?

(Testimony of LeRoy J. Leishman.)

The Witness: The one I was demonstrating to the industry in general and shown in 343 patent.

Mr. Lyon: The same one that has been identified as the one that was shown to the Crowe Manufacturing Company. [140]

The Witness: That is right. And to keep the matter straight I want to reiterate that I did not disclose or have any intention of disclosing to the Crosley Corporation, the coaxial tappet and rocker construction that we have been discussing here.

Mr. Johnston said that it was very refreshing to see something that they could use; that many different devices came over his desk and that one year he counted them——

Q. (By Mr. Flam): By the way, what was Mr. Johnston's position? Did you state that?

A. I stated that, yes.

Q. All right, go ahead.

A. And he told me that he would like to have Mr. Crosley see the tuner but that Mr. Crosley wasn't then in Cincinnati. And he asked me if I would come back to the Crosley plant on my return trip from points east. I told him that I was, after being in New York, was going to go to Buffalo to call on the Colonial Radio Corporation. By the way, that is an additional concern that I saw. They manufacture Silvertone radios for Sears Roebuck. And then I told them that I was going to Detroit.

I called on the Detrola Company there, to make the answer complete.

(Testimony of LeRoy J. Leishman.)

Mr. Johnston told me that since I was coming back [141] through those cities it wouldn't be very much out of my way if I would return to Cincinnati, but he said that to save me a possible wild goose chase that it would be advisable if I would telegraph him when I got to Buffalo and he would try and have an answer for me at Detroit, when I got to Detroit, advising me whether Mr. Crosley would be available then.

Q. Was anything else stated in that conversation?
A. (No answer.)

Q. Was anything demonstrated to you or shown to you at the plant of the Crosley people that the Crosley people were making or thinking of making?

A. Yes. They demonstrated to me a motor-driven tuner that they were working with and considering and that they were developing. That is all that I remember.

Q. Now, what happened after that? Was there any request for you to return to Cincinnati?

A. Well, when I got to Buffalo I wired Mr. Johnston, according to the previous arrangement, and he sent me an answer. I have a photostatic copy of the telegram here that he sent me.

Mr. Lyon: I don't think that is necessary. There is no dispute about the fact that this conversation occurred and you can give the date without proving the date. We don't dispute the date. You can give the date if you have [142*] it from the telegram.

* Page numbering appearing at top of page of original Reporter's Transcript.

(Testimony of LeRoy J. Leishman.)

Q. (By Mr. Flam): You might refer to the date, Mr. Leishman, on the telegram, and we won't bother about introducing it.

A. The telegram was dated September 9th.

Q. 1937?

A. September 9, 1937, and it advised me that Mr.—I am testifying to the contents of a written document here. Do you want me to do that? It advised me that Mr. Crosley would not be in Cincinnati on the Saturday, the date that was convenient for me to be there and that Mr. Johnston had sent the telegram signed F. E. Johnston, Radio Crosley Corporation, and wanted me to advise him when it would next be possible for me to go to Cincinnati.

Q. When actually did you get back to Cincinnati, if at all?

A. I got back to Cincinnati after I had been in Chicago.

Q. When was that?

A. It would be the Wednesday following September 20th.

Q. And at that time did you have any conversations with anyone there?

A. Yes. I had a conversation with various other people at the plant and particularly with Mr. Powell Crosley, Jr., the head of the Crosley Radio Corporation. [143]

* * *

Q. (By Mr. Flam): Will you continue with

(Testimony of LeRoy J. Leishman.)

your statement regarding the conversations on the second visit?

A. Yes. I demonstrated the tuner that we have heretofore identified, that I was demonstrating to the industry, and it was shown—and as shown in 343, which was then only a patent application. I demonstrated that tuner to Mr. Powell Crosley II, the head of the firm, and Mr. Johnston was there, and Mr. Crosley stated that he would like me to leave with him a copy of my 851 patent and he would like me to send him a copy of a proposed license agreement.

I told him that I had anticipated that request and that I had a license agreement already made out and I [146] gave him that copy and a copy of the patent and he asked me who else I had licensed and I told him that I had licensed the Clinton Manufacturing Company in Chicago, and that I had also licensed the Crowe Name Plate & Manufacturing Company in Chicago. Mr. Crosley said, “Well, it may be that instead of making our own tuners we will buy them from Crowe” as the concern was generally known in the trade. And he says, “That is something we will have to decide.”

“But their salesmen are over here periodically and we have your license now and a copy of this patent and we will look into these matters.”

That was the only part of the conversation that I can remember with distinctness. Now, these matters might be borne in mind. I was there for many

(Testimony of LeRoy J. Leishman.)

hours at the plant and I was treated very affably by Mr. Crosley and Mr. Crosley's son, and I was very interested in licensing the Crosley Corporation because the Clinton Company that I had licensed in Chicago, who make their own, was a rather small concern and the Crosley industry was a very large one and so these negotiations were very important to me and I can remember those details that I have mentioned now very distinctly. But I can't remember other minute matters. I think probably those are the ones that are important anyway.

Q. (By Mr. Flam): Now, in the course of your travels [147] and discussions of radio tuners with the manufacturers that you mentioned before, was there anything discussed about the use of a plunger to operate the tuner? A. Yes.

* * *

The Witness: Several of the manufacturers that I visited asked me what I thought about operating the tuner that I was demonstrating by plungers instead of levers and I told them it would be entirely feasible—you could do it either way.

It was just a matter of how much pressure they were willing to put up with on the button and how much stroke it would have.

I said, "If you make your device run smoothly enough, have a dial without very much torque and easy running condensers we can, of course, fix you up to operate with a plunger."

(Testimony of LeRoy J. Leishman.)

Mr. Lyon: If your Honor please, I object to the answer as a volunteered statement as to what the manufacturers asked, because the question was, "What was the attitude of the manufacturers," and the witness is testifying as to what [153] he said which I don't think the plaintiff in this case is bound by. It was a statement out of court and was not in the presence of the defendant and also was volunteered and not called for by the question.

The Court: The motion to strike is denied. Just answer the questions, please.

* * *

Q. (By Mr. Flam): May I ask you this? I was inquiring [154] about some features of your answer to the previous question. I think you said something about making the lever such that it will operate the load placed upon it. In the first place what is the load on a tuning device?

A. The condensers and movable parts that are connected with a tuner all add to the load.

Q. Well, at that time do you know whether these tuners or articles such as condensers were easy to move or hard to move—to adjust?

A. Well, of course, that is a relative matter. They were harder to move than would be required with plungers, if that gets to your question. We discussed in order to get the matter of operating them with plungers, the dial mechanism and we discussed condensers and the possibility of getting the condenser manufacturers to make the condensers very easy to turn.

(Testimony of LeRoy J. Leishman.)

Q. Now, is there any mechanical or other advantage in using a lever instead of a plunger for operating a condenser?

A. With the lever the amount of force required by the operator depends upon the length of the stroke. The longer the stroke or the further you move the lever the easier it is to move a given load. Perhaps I am going beyond the scope of your question. That probably answers it. [155]

Q. Was it easy to move the condensers available at that time with a plunger as well as a lever?

A. No.

Q. When were the easily moving condensers made available?

A. The easily movable condensers were made available either late in 1937 or early 1938, and they were made available for these automatic tuning devices so that they would operate with little pressure on the button. That made it possible to use either a lever with a short stroke such as the tuner Exhibit X, or to use a plunger with a short movement.

Q. Now, after you returned from your trip in the summer of 1937 did you receive any communication from anyone after that?

A. You mean anyone in the industry?

Mr. Lyon: Will you read that question?

(Question read.)

A. Yes, I received communications from various people in the industry, including one from the

(Testimony of LeRoy J. Leishman.)

Crosley Corporation or from attorneys who said they were representing the Crosley Corporation.

Q. Do you have copies of those letters?

A. There is one copy of that letter already in evidence with the motion for summary judgment and I believe [156] I have another copy of that letter here somewhere, a photostatic copy. The original letter is in evidence in Oklahoma.

The letter I have reference to was from the law firm of Allan & Allan.

Mr. Lyon: The letter that has been handed to me and which the witness refers to was Plaintiff's Exhibit 36 in the case before Judge Harrison. I have no objection to it being received without further proof.

* * *

The Court: It will be marked filed as an exhibit.

The Clerk: Defendant's Exhibit AA in evidence.

(The letter referred to was marked Defendant's Exhibit AA, and was received in evidence.) [157]

* * *

Mr. Flam: The patent that was referred to in that letter from Allan & Allan is the patent of which the file wrapper is present here as Exhibit O, is that right? A. That is correct.

Q. And I understood your testimony heretofore was that that file wrapper was the file wrapper of a parent application from which was carved a

(Testimony of LeRoy J. Leishman.)

divisional application resulting in the patent of which the patent in suit is a re-issue, is that right?

A. That is correct. [158]

* * *

Q. (By Mr. Flam): Do you know whether the Crowe Name Plate and Manufacturing Company took any steps to investigate your patent 851?

A. Yes, I know they did. [161]

* * *

Q. And was there any thing said there about investigating your patent by the Crowe Name Plate Company? A. Yes, they said that they had.

Q. Who?

A. That they had investigated the patent.

Q. Who said that?

A. Mr. Lane told me and that was also confirmed by Mr. Goodwin. In fact I saw a copy of the file wrapper.

Q. You did see a copy of the file wrapper?

A. Yes.

* * *

Q. (By Mr. Flam): Did you ever hear further from the Crosley Corporation or from Allen & Allen regarding anything further on your patent 2,084,851? A. No, I never did.

Q. I think you said yesterday that the Crosley Corporation started using the coaxial tappet and rocker arrangement in January, 1938. Is that right?

(Testimony of LeRoy J. Leishman.)

A. They started using it either in January or February and I stated that the first information that I had that they were making a new tuner was contained in the January 26, 1938, number of Radio Weekly, which has been introduced here in evidence.

(Mr. Flam showing object to Mr. Lyon.)

Mr. Flam: I should like to have this apparatus marked for identification.

The Court: Is that another one?

Mr. Flam: That is a Crosley, I think. The witness will testify that is a Crosley tuner.

* * *

The Court: You had better have it marked for identification.

The Clerk: Defendant's Exhibit BB for identification.

* * *

Q. (By Mr. Flam): Mr. Leishman, is that the type of Crosley tuner [170] that you have been talking about that came out on the market some time in January or early in February of 1938?

A. It is.

Q. Was this a licensed tuner?

A. No, sir, it was not.

Q. Do you have any advertisements or other data showing the Crosley intention to market this tuner?

A. Well, in addition to the magazine containing the articles about it I have two magazines that contain advertisements for it.

(Testimony of LeRoy J. Leishman.)

Mr. Flam: I offer in evidence, your Honor, page 15 of the issue of the Automobile Trade Journal for April, 1938, which is the same page offered as Exhibit 35 in the Associated Wholesale Electric case.

Mr. Lyon: No objection.

The Court: So received and marked.

The Clerk: Will that be in evidence?

Mr. Flam: I offer it in evidence.

Mr. Lyon: You didn't offer your specimen.

Mr. Flam: I think I did.

The Clerk: That is in for identification as Exhibit BB, Crosley tuner.

The witness: It also says "in evidence BB."

Mr. Flam: I re-offer it just to make the record clear.

Mr. Lyon: No objection. [171]

The Court: So ordered.

The Clerk: Defendant's Exhibit BB now in evidence.

(The instrument referred to was marked Defendant's Exhibit BB, and was received in evidence.)

The Clerk: Is this magazine page 15 Exhibit CC in evidence, your Honor?

The Court: It has not been formally offered yet, but it is in his hand. I assume he is going to offer it.

Mr. Flam: The one the court has in his hand is already offered.

The Court: Is that CC?

The Clerk: CC.

(Testimony of LeRoy J. Leishman.)

The Court: Received in evidence as such.

The Clerk: CC in evidence.

(The document referred to was marked Defendant's Exhibit CC, and was received in evidence.)

Mr. Flam: I likewise offer in evidence the inside back cover of the magazine Radio Retailing for February, 1948, which is the same page offered as Plaintiff's Exhibit 32 in the Associated Wholesale Electric case.

Mr. Lyon: That is according to my understanding, your Honor.

The Court: No objection, Mr. Lyon?

Mr. Lyon: No objection.

The Clerk: Defendant's Exhibit DD in evidence.

(The document referred to was marked Defendant's Exhibit DD, and was received in evidence.)

Q. (By Mr. Flam): Looking at Exhibit BB in front of you, Mr. Leishman, did any other manufacturer make this specific type of tuner? Before that, will you explain to his Honor the operating parts only of that mechanism?

A. Yes. There is on the top of the instrument a variable condenser of the type that we discussed yesterday, and it is connected by means of gearing to a rocker member. The rocker member instead of having bars with one hole in it is a long bar with several holes in it, and there is a tappet associated

(Testimony of LeRoy J. Leishman.)

with each of these plungers for moving the rocker, the tappet is adjustable to pre-determined positions. Whenever you press down any one of the buttons or plungers, it moves the rocker to the position for which the tappet was adjusted. The tappet in each case when pressed into full engagement with the rocker assumes the position in which the axis of the tappet is coaxial with the axis of the rocker.

Q. Did any other manufacturer offer a tuner mechanism of that type?

A. Subsequent to the appearance of the Crosley tuner on the market the Du Jur Manufacturing Company placed one on the market. This was two or three months later. Not later than that. [173]

Q. Was there one made by the Quality Hardware Company?

A. Considerably later. In chronological order, the next one, as I remember it, that came on the market was one manufactured by the General Instrument Company. I have a picture of that here. The only tuner that I had of that type is an exhibit in the Oklahoma case.

Q. Do you know about when that General Instrument Company device was on the market?

A. The General Instrument Company device came on the market in the spring of 1938. I don't believe you have the right drawing, Mr. Flam.

Q. I show you what was filed as Exhibit W.

A. That is a later tuner. This is the one I have in mind for the General Instrument Corporation (indicating).

(Testimony of LeRoy J. Leishman.)

Q. Do I understand it that the drawing you have in your hand now represents the General Instrument Corporation mechanism? A. That is correct.

Mr. Flam: Your Honor, I think the witness already stated that the original tuner, the actual model, is in the custody of the courts in Oklahoma. With that as a foundation, I should like to offer this drawing in evidence.

Mr. Lyon: I have no objection, Mr. Flam. I haven't seen that particular tuner, but subject to correction, if we [174] find any need for correction, I am willing to accept it now, your Honor.

The Court: So understood and so ordered.

The Clerk: Defendant's Exhibit EE in evidence.

(The drawing referred to was marked Defendant's Exhibit EE, and was received in evidence.)

Q. (By Mr. Flam): Do you want to explain the structure shown on that exhibit just introduced, EE?

A. Yes.

The Court: Do I have the same drawing? I guess I have.

A. These sheets happen to be marked Defendant's Exhibit X. That is because they were introduced as Defendant's Exhibit X with the motion that I filed for summary judgment earlier in this case.

The Court: But we are referring now to Exhibit EE in this case, aren't we?

(Testimony of LeRoy J. Leishman.)

The Witness: I didn't know the number, but I will so mark it.

The device shown in Defendant's Exhibit EE was manufactured by the General Instrument Corporation. The original model of this that I had was an exhibit in the Associated case, and that same tuner is now an exhibit in the Oklahoma case. These drawings are made from the drawings from the file wrapper of the General Instrument Corporation tuner patent on this device. The rocker in this case, instead of [175] having a hole through it has a recess which doesn't go all the way through the rocker. The rocker is No. 4 and a cross-section of it is shown in green in the figure, and the rocker has been given a sort of bathtub shape. If you saw the entire rocker here it would be obvious that was the shape of it. When the tappet 3 is brought into full engagement with the rocker the axis of the tappet 3 at the center of the white portion on these particular drawings will go down inside of the rocker structure so that the axis of the tappet becomes coaxial with the axis of the rocker and the two have been especially shaped with respect to each other so that that coaxial condition can prevail.

Q. (By Mr. Flam): Do you have any other data of other tuners that came out about the same time?

A. The next one that I know of that came out on the market I believe was the one manufactured by Quality Hardware and Manufacturing Company of Chicago and which was later produced by them in conjunction with Crowe Name-Plate and Manufac-

(Testimony of LeRoy J. Leishman.)

turing Company of Chicago, which was the licensee under my patents.

Mr. Lyon: If your Honor please, I think the witness should fix the time when this device of the Quality Hardware and Manufacturing Company was first produced on the market.

Mr. Flam: We expect to do that.

The Witness: I think that's right. [176]

The first tuners made by the Quality Hardware and Manufacturing Company came on the market in the summer of 1938, and I am quite sure that it was in July.

The particular tuner that I have here was one that was manufactured later by the Quality Company, using the same identical structure, but containing more than the number of buttons than were on the 1937 model, and——

Mr. Flam: May I offer that in evidence so that we will have an identification? I offer this model in evidence, your Honor.

The Court: So received and marked.

The Clerk: Defendant's Exhibit FF in evidence.

(The device referred to was marked Defendant's Exhibit FF, and was received in evidence.)

Q. (By Mr. Flam): Will you go on about this Exhibit FF, Mr. Leishman?

A. In this device, Exhibit FF, there is a long rocker extending the entire length of the tuner, and

(Testimony of LeRoy J. Leishman.)

it has one aperture for each of the manually operable members, plungers in this case, and pivoted to each of the plungers there is a tappet, and the tappet and the rocker are so shaped and pivoted that when the tappet comes into engagement with the rocker they assume a coaxial position, that is, the axis of the tappet becomes coaxial with the axis of the rocker, and when the tappet is loosened and you turn the rocker to any extreme [177] angular position and press on the tappet there is no tendency whatever for the rocker to move. By tightening the button or tightening a set screw, which is a part of the button structure, the cam can be tightened in the adjusted position, and then the rockers, of course, move to the right angular position for the station for which the button was originally set. This particular tuner was one that was manufactured by Crowe Name-Plate and Manufacturing Company and Quality under my re-issue patent for the Zenith Corporation that marketed about 1937 or '38 or '39, a two-year period in there, the Schaffer tuner that we described yesterday.

Mr. Lyon: When did the witness say, 1937?

The Court: 1938 and '39.

The witness: I meant '27, '28 and '29. Shall I re-state it?

The Court: Yes.

The Witness: I stated that this tuner Exhibit FF was manufactured by Quality Hardware and Manufacturing Corporation and Crowe Name-Plate

(Testimony of LeRoy J. Leishman.)
and Manufacturing Company for the Zenith Corporation, which earlier in the years between '27 and '29 had marketed the Schaffer tuner that we described yesterday.

Q. (By Mr. Flam): You mean such as Exhibit H, for identification? [178]

A. Yes, that is correct.

Q. To clear up this matter of dates, I think you said it was what month and year that this particular thing was manufactured, Exhibit FF?

A. The first tuners of this type in which the button and tappet were made from the very same dies appeared on the market in the summer of 1937. This particular——

Q. I think you said '38 before. I want to be sure which of the two you mean.

A. '38, I mean. I am sorry. None of these tuners were on the market until 1938. No coaxial rocker and tappet tuners whatever were on the market until my teachings on this matter became available. None of them appeared on the market until 1938, and it was in July or August '38 that the first Quality tuners came on the market, and they were later produced in conjunction with Crowe under a license agreement with me, and this particular one that has been introduced as Defendant's Exhibit FF was manufactured by Crowe and Quality for the Zenith Corporation.

Mr. Lyon: I move to strike that portion of the last answer of the witness where he employed the

(Testimony of LeRoy J. Leishman.)

words, or substantially the words, "until my teachings became available," on the ground that that is volunteered, and also is a conclusion of the witness.

The Court: Motion denied. [179]

Q. (By Mr. Flam): You mentioned about licensing Crowe under your re-issue patent.

A. They were licensed originally under the original patent which was later re-issued as my re-issue patent 20,827.

Q. Do you have a copy of that license agreement?

A. There is a copy already in the record with my motion for summary judgment, a photostatic copy of the original license. The original license is an exhibit in the Oklahoma case.

The Court: I wanted to ask you a question here about these last two models, FF—and what is the other one?

The Witness: This one is FF.

The Court: And BB. Were those models or facsimiles of them introduced in the case before Judge Harrison?

The Witness: Yes. There was in the case before Judge Harrison either this exact tuner that has been marked Defendant's Exhibit BB, or one which was identical to it. And in that same case there was a four-button model of Crowe and Quality tuner corresponding to Exhibit FF with the same plunger, tappet and rocker construction. The only difference here being that there is a longer rocker and more buttons on the particular one that they made for Zenith.

(Testimony of LeRoy J. Leishman.)

Incidentally, this Exhibit FF bears the number of my re-issue patent here in suit on each of the two end plates. [180]

* * *

Mr. Flam: Your Honor, I have here a photo-static copy of a license which I think the witness will identify as the one Crowe entered into in 1938. The original, I think, is in the Oklahoma courts, and Mr. Lyon——

Mr. Lyon: I will accept the photostat.

Mr. Flam: I offer that license agreement in evidence. [181]

The Court: It will be received.

The Clerk: Defendant's Exhibit GG in evidence.

(The document referred to was marked Defendant's GG and received in evidence.)

Q. (By Mr. Flam): Mr. Leishman, I think you have already mentioned the Crosley, DuJur, General Instrument Corporation and Quality in conjunction with Crowe that made this type of tuner, tappet and rocker. Were there any other manufacturers at that period in 1938 or thereabouts that made that same type of device?

Mr. Lyon: I would like to have counsel make more definite what he means by this type of device. If he means merely a tuner of some kind or other with an adjustable tappet that is shaped with a rocker so that they were coaxial, if that is what he means by the type, I am satisfied with that under-

(Testimony of LeRoy J. Leishman.)

standing; but if he means something else, I think it should be defined.

Mr. Flam: I think I mentioned this tappet and rocker arrangement was shown in these other exhibits, that became coaxial when the tappet is in full engagement.

Q. (By Mr. Flam): Do you know of anything else?

The Court: There ought to be a little more specification there. We have had a lot of exhibits here. Some of them are, apparently,—without determining whether they are or not—quite different. I am handing you back these two models that I was asking him about. [181-A]

If that is what you refer to, the question is clear.

Q. (By Mr. Flam): Such, for example, Mr. Leishman, as shown in Exhibits EE, BB, and FF.

The Court: Now will you read the question, Mr. Reporter?

(The question referred to was read by the reporter, as follows:

“Q. Mr. Leishman, I think you have already mentioned the Crosley, DuJur, General Instrument Corporation, and Quality in conjunction with Crowe that made this type of tuner, tappet and rocker. Were there any other manufacturers at that period in 1938 or thereabouts that made that same type of device?”)

The Witness: Late in 1938 or early in 1939 the Radio Condenser Company placed on the market

(Testimony of LeRoy J. Leishman.)

a tuner which also used a rocker and adjustable tappet which became coaxial in the fully engaged position. That is, the axis of the tappet became coaxial with the axis of the rocker in the fully engaged position. In their case, however, instead of having a recess——

Q. Do you have anything to illustrate what that structure was?

A. Yes, I have a drawing here.

Q. Do you know whether there is a model that could be [182] used in place of the drawing?

A. The only model that I had was an exhibit in the Associated case, and it is now an exhibit in the Oklahoma case. However, I have drawings—I have prints of drawings that appeared in the file wrapper of the patent application of the Radio Condenser Company on this particular [183] tuner?

* * *

Q. (By Mr. Flam): Will you state how this drawing you have in your hand now compares?

A. We have as an exhibit that I introduced with my motion for summary judgment a tuner which I think Mr. Lyon will agree is the same for all practical purposes as the tuners before Judge Beaumont in the General Instrument and Radio Condenser case. That may be one of the actual models. I think the end plate tells who made it. It may have been Radio Condenser Company.

Q. Is this the one you have reference to?

A. That is the one I have reference to. Does

(Testimony of LeRoy J. Leishman.)

it tell who made that? That is not the one I am going to explain now, but I am trying to have these two together to differentiate them.

Mr. Lyon: This last device that you produced, Mr. Flam, if we can have it marked for identification now I would like to state that it is, according to my understanding, a duplicate of the radio condenser device which was passed upon by Judge Beaumont.

The Court: Mark it, Mr. Clerk, for identification.

Mr. Flam: I offer it in evidence.

Mr. Lyon: No objection.

The Court: So received and marked. [184]

The Clerk: Defendant's Exhibit HH in evidence.

(The device referred to was marked Defendant's Exhibit HH for identification and received in evidence.)

Q. (By Mr. Flam): I show you Exhibit HH. Now, can you compare that Exhibit HH with the drawing of this tuner that you produced?

A. Do you want this exhibit identified so that I can refer to it by number?

Mr. Flam: I will offer that drawing in evidence in lieu of the physical model.

The Court: It will be received and marked as an exhibit.

The Clerk: Defendant's Exhibit II in evidence.

(Testimony of LeRoy J. Leishman.)

(The drawing referred to was marked Defendant's Exhibit II and received in evidence.)

Q. (By Mr. Flam): In what way does the structure shown in Exhibit II differ from that of Exhibit HH?

A. In Exhibit HH we have recesses in the rocker through which the plunger passes, and the physical axis of the tappet becomes coaxial with the axis of the rocker when the two are in full engagement. That is on Exhibit HH, which is the same as the radio condenser tuner before Judge Beaumont in the case of Radio Condenser and General Instrument Corporation vs. Leishman. In the device illustrated on Defendant's Exhibit II, instead of having the [185] recess in the rocker so that one of these elements can nest within the other, the recess has been made in the tappet. That has been referred to as a phantom axis. Of course, it necessarily has to have an axis of rotation if it is going to turn. But in this case the tappet shown in red, which is No. 3 on Defendant's Exhibit II, the tappet rotates on its outer periphery, and when the tappet is in full engagement with the arms of the rocker 4 and 4, which have been colored green on these exhibits, then the axis of the tappet 3 becomes coaxial with the axis of the rocker, which is in the center of the shaft 10. I think it can be pretty well seen on this drawing that the outer periphery or outer circle curve of the tappet 4 has a center which it would be right in the

(Testimony of LeRoy J. Leishman.)

center of No. 10 where the axis of the rocker is located. So these two members, the rocker and the tappet, have the same coaxial relationship that we have been discussing, but the phantom axis or recess has been made in the tappet instead of in the rocker. It is necessary to cut one or the other members away so that one can nest inside of the other, and of course it is mechanically immaterial which one has the recess.

Q. Did any other manufacturer make a device in which the rocker and the tappet became coaxial in the fully engaged position for a radio tuner?

A. Stewart-Warner made a tuner [186] having a rocker and a tappet, the axes of which became coaxial in the fully engaged position. This came on the market, as I remember it, in 1938, and it was a very close copy of the Crosley tuner. It had about the same size and in details it very closely followed the Crosley design.

Q. When did you first become aware that General Motors Corporation, the plaintiff here, was making this type of tuner in which the tappet and the rocker became coaxial in the fully engaged position?

A. When the declaratory judgment complaint was filed in this case.

The Court: The file mark shows September 20, 1946. Is that the date you are referring to?

The Witness: Yes, when the papers were served on me I had my first notice that General Motors

(Testimony of LeRoy J. Leishman.)

was making a device of this kind. I had possibly seen cars that contained some of these tuners, but I had only seen the buttons and I didn't know what was behind the instrument panel. General Motors had previously used some other designs, and I had assumed, without investigating them, that it was some other type of tuner, and I didn't know until this complaint was filed that they were using the coaxial rocker and coaxial tappet construction.

Mr. Flam: Your Honor, I have in my hand a model or, rather, an embodiment of Plaintiff's Exhibit 2 in the form of a production model, and I think it was furnished to Mr. [187] Leishman at the request of Mr. Leishman from General Motors. I would prefer to have Mr. Leishman take this production model rather than Exhibit 2, and I offer it in evidence.

The Court: So received and marked.

Mr. Lyon: No objection, your Honor. I will state that I am informed that this exhibit which has just been offered to the court is a standard production model of General Motors.

The Clerk: Defendant's Exhibit JJ in evidence.

(The device referred to was marked Defendant's Exhibit JJ and received in evidence.)

Mr. Lyon: And that corresponds to Plaintiff's Exhibit 2 to the complaint, your Honor.

Mr. Flam: This is Exhibit 2, too, your Honor, but it is more like a laboratory model (indicating).

(Testimony of LeRoy J. Leishman.)

Mr. Lyon: That was just to illustrate the tuner itself; but this last exhibit illustrates the tuner as it is built with the accompanying apparatus.

Q. (By Mr. Flam): Does this tuner Exhibit JJ embody the structure of a coaxial tappet and rocker in the fully engaged position?

A. I have examined this, and it does. However, there is a good deal of structure on here, and I think that since Mr. Lyon has admitted in his preliminary statement—

Mr. Lyon: I think we even have a better model that you can use now. We have taken an exact duplicate of Exhibit JJ [188] and peeled off the parts down to the single unit, so that the court can see the simplest form of the structure, and I haven't any objection to the witness using this for his illustration to the court.

The Court: This looks to me—I am referring to Exhibit No. 2 to the complaint in this action—like the simplest and the least complicated. That is, visually it is.

Mr. Lyon: It is even simpler than this specimen I have here, but this specimen I have here has more complete operating parts. I don't know which one the witness would prefer to use. He can use any one he wants to, as far as I am concerned. This last specimen that I handed the witness is another production device just off the regular production line, except that parts have been taken out so as to simplify the observation.

(Testimony of LeRoy J. Leishman.)

The Court: You had better have that marked for identification, Mr. Clerk.

The Witness: I think this device will——

Mr. Flam: Can I merely substitute the exhibit number, then, and withdraw this in place of the one the witness has, and mark that JJ in evidence? Is that satisfactory?

Mr. Lyon: That is satisfactory to me.

The Court: JJ is withdrawn, and in lieu thereof this device which the witness has in his hand will be substituted as Defendant's Exhibit JJ. Just take the tag off and put it [189] on the other one.

Now, if I understand, Mr. Leishman, Exhibit JJ in your opinion is a counterpart of Exhibit 2 that is annexed to the complaint, with some additions mechanically that do not in any manner affect what you regard to be the gist of the patent in suit and the claims involved in this action?

The Witness: That is correct, your Honor.

Q. (By Mr. Flam): Can you explain to the court, if necessary by the aid of charts, just what the structure of this Exhibit JJ is?

A. I can explain the structure, I think, very well by means of Model JJ in conjunction with Plaintiff's Exhibit 2 with the complaint.

I will first explain Defendant's Exhibit JJ. I am going to turn it to a position in which the buttons are on the bottom so that certain features with which the court may not be familiar, and which we haven't had occasion to discuss, may first

(Testimony of LeRoy J. Leishman.)

be described. On all the tuners with which any kind of an actual impedance varying device have been used, have been attached, those impedance varying devices or tuning devices have been variable condensers, the members with rotating leaves that move into stationary leaves. That device is called a condenser, and that is the most common type of mechanism or device that actually does the tuning in the set. And on the tuners on which a variable condenser [190] has been attached, the actuator or automatic tuning device proper positions the rotor of the variable condenser to the proper position.

In defendant's model or Exhibit JJ, instead of having a variable condenser a difficult type of impedance aying structure is used. There are coils in this device wound around small tubes. One may be seen in the center, because the surrounding shields or cam have been removed, and cores having a special structure move in and out of those, and actual tuning is accomplished by how far those cores protrude into the coils. This type of tuning is called permeability tuning. I don't know that it is necessary to go further into the technical meaning of these terms. All we need to know is that the automatic tuner proper is going to determine how far those plungers pass inside of the coils.

I will turn the device upside down so that we can see the rocker structure. I am turning JJ upside down. Here the rocker consists of two bars

(Testimony of LeRoy J. Leishman.)

centrally pivoted at the two opposite ends, and the rocker is mechanically connected to the three cores so that the angular movement of the rocker determines the distance that the cores move into the coils.

In the commercial form of this device there are a plurality of plungers, one of which is represented as shown on Defendant's Exhibit JJ.

Mr. Lyon: Mr. Leishman, perhaps it would help the court [191] if you would care to have a separate plunger with its lock, we can mark that as an exhibit and it might help you to explain the plunger to the court.

The Witness: I think I can explain the plunger better on this.

The Court: By "this" you mean Exhibit 2 that is annexed to the complaint?

The Witness: That is correct, your Honor.

There is mounted on the plunger structure a tappet which has, in general, the shape of the tappets on most of the other tuners here in evidence, and that tappet is fitted to the plunger structure, and when the tappet is in full engagement with the opposite arms or bars of the rocker the axis of the tappet becomes coaxial with the axis of the rocker, the relationship that we have discussed in most of these tuners and demonstrated in conjunction with models yesterday.

Aside from the difference that we have mentioned here, which has to do with the movement, of course,

(Testimony of LeRoy J. Leishman.)

in and out of coils instead of the operation of a variable condenser, this tuner has a very interesting way of locking the tappet. The means of locking the tappet is not a matter that is claimed in any of these claims, and I think Mr. Lyon will agree that it has nothing to do with the patent matter here under discussion.

Mr. Lyon: I can't quite agree with that, because I think [192] we will show that it is necessary to use an entirely different type of lock when you are employing a plunger such as in Exhibit JJ from the type of lock which is illustrated in the re-issue patent in suit, and which is adapted for a lever instead of a plunger.

The Witness: The lock, of course, is not an element of any of the claims here in issue. But on this device instead of having a screw that is used to control a clamping means for locking the tappet in position, you just pull out on the button, then you tune the set so that the stations perfectly tune in, and when you pull the plunger button out that releases the cam so that it is free to rotate around its center of rotation, around its axis of rotation, then the act of pushing it in causes the tappet first to take the position of the rocker and to become locked up. The tappet, however, doesn't have any stops on it, and I turned it too far. I will move it up a little bit so that it will engage. When you push this in—this is not working right. I know General Motors intended it to work. I mean it

(Testimony of LeRoy J. Leishman.)

is catching. This one is working all right. First the tappet moves to take the position of rocker, no matter what position we have the rocker in the tappet moves, and the further pushing of the plunger locks the tappet in position. But as Mr. Lyon stated yesterday in his opening statement the axis of the tappet in this device becomes coaxial with the axis of the [193] rocker.

Mr. Lyon: Mr. Flam, in connection with the offer of Exhibit JJ and the witness' explanation, are you willing to stipulate that for the purpose of this case Exhibit JJ and its corresponding exhibit 2 to the complaint is the same as the Associated device held not to infringe by the Circuit Court of Appeals in the Associated case and the Radio Condenser and General Instrument devices held not to infringe on the appeal from Judge Beaumont's decision?

Mr. Flam: They are the same to the extent that they do have a plunger, a tappet adjustably mounted on the plunger, and a rocker; and they are further the same by virtue of the fact that the tappet and the rocker become coaxial when in full engagement. I think patent-wise you might say they are the same. They are not the same in ultimate design by any means, your Honor.

Mr. Lyon: But for the purpose of this case, the issues of this case, they present identically the same questions as the devices in those other cases that I have referred to, is that to be understood?

(Testimony of LeRoy J. Leishman.)

Mr. Flam: I don't know about the identical part. They certainly are the same as far as the assertion on our part that the tappet and the rocker would comprise infringement when they become co-axial. And that, of course, is true about these General Motors devices. [194]

Q. (By Mr. Flam): Can you compare the structure of this Exhibit JJ with your tuner shown in the reissue patent in suit?

A. Yes, I have a chart that was made for such an explanation.

Q. Do you happen to have a copy of this for Mr. Lyon? A. No, I don't. [195]

* * *

Mr. Flam: I will ask that it be marked for identification for the present, your Honor.

The Court: So ordered.

The Clerk: Defendant's Exhibit KK for identification.

(The chart referred to was marked Defendant's Exhibit KK for identification.)

Q. (By Mr. Flam): Now will you proceed with your explanation in connection with Exhibit KK for identification?

A. On the right-hand side of the chart Defendant's Exhibit KK is shown the structure—the parts shown in the patent that are used to tune in a radio set and which are the parts in the claims at issue; and on the left-hand side of the chart we

(Testimony of LeRoy J. Leishman.)

have drawings of the pertinent parts from Plaintiff's Exhibit 2 tuner. On the right-hand side we have five figures designated as Fig. L-1, Fig. L-2, Fig. L-3, Fig. L-4, and Fig. L-5, that show different positions of the elements with respect to each other, and the corresponding positions for Plaintiff's Exhibit 2 tuner are shown on the left-hand side of the chart and designated, respectively, Fig. GM-1, GM-2, GM-3, GM-4, and GM-5. In Figure L-1——

Mr. Lyon: Before the witness begins to use the chart, your Honor, I would like to have it appear definitely of record that the witness in reproducing the figures that he says correspond to the patent in suit on the right-hand side of this exhibit, he has eliminated the second rocker and [196] second tappet, and the mechanism which enable the device shown in the patent in suit to service both the visual signal and the audible signal in the television set. I think you will admit that.

The Witness: That is correct. I believe I stated that the figures showing the Defendant's structure include the elements from the figures shown in the patent that are used in tuning a radio set. The patent states that the device is for tuning either a radio set or a television set, or both, and the parts shown here are those that are concerned with tuning a radio set. [197]

* * *

Q. (By Mr. Flam): If you can avoid any reference in your testimony to argumentative matters

(Testimony of LeRoy J. Leishman.)

about what the patent shows, I think it will be better.

A. I merely wanted to identify what these elements are. The rocker, cross-sectional portions of which are shown in green on the figures on the right-hand side of Chart KK, correspond to rocker 48 shown in the patent, and the red tappet in each of the figures showing the defendant's structure corresponds to tappet 61 in the patent. The rocker 48 in Figure L-1 is shown in the position in which the right-hand end is elevated above the left-hand end and the tappet is shown completely out of engagement with the rocker. The spring 73 holds the lever and the plunger section in the [198] center in an upward rest position so that the tappet is out of engagement with the rocker.

In Figure GM-1 the rocker from Plaintiff's Exhibit 2 tuner is shown with the rocker bars indicated in green and designated by the reference characters GM-48, and the tappet shown in pink or red is designated by GM-61. In Figure GM-1 the plunger is held in an upward position by means of the returning spring GM-73, so that the tappet is completely out of engagement with the rocker GM-48.

In Figure L-2 the tappet 61 of defendant's structure is shown with one arm of the tappet just in engagement with one arm of the rocker 48. The rocker being shown in the same angular position as indicated in Figure L-1.

(Testimony of LeRoy J. Leishman.)

In Figure L-5 the tappet is shown completely in engagement with the rocker 48.

In Figure GM-2 the rocker member GM-48 is shown in the same angular position as the rocker 48 in defendant's structure illustrated in Figure L-2, and one arm of the tappet GM-61 is just in engagement with one arm of the rocker GM-48. And then in the lower figure GM-5 the tappet GM-61 is shown in complete engagement with the rocker GM-48, and in the completely engaged position the axis of the tappet GM-61 is coaxial with the axis of the rocker GM-48, just as the axis of the tappet 61 in Figure L-5 is coaxial with the axis of the rocker 48 in the completely engaged position.

Is that a sufficient explanation, Mr. Flam?

Q. Yes.

Mr. Flam: I offer the chart in evidence.

The Court: It will be received and marked.

The Clerk: Defendant's KK in evidence.

(The chart referred to was marked Defendant's KK, and was received in evidence.)

Q. (By Mr. Flam): I will show you Plaintiff's Exhibit 1, which is a mechanism attached or made a part of the complaint.

Mr. Lyon: We have a simplified duplicate of that, your Honor, with a lot of parts taken off, so that the witness can explain the material points more readily to your Honor.

I hand it to counsel for the defendant.

(Testimony of LeRoy J. Leishman.)

The Court: What do these purport to be, commercial structures?

Mr. Lyon: Yes, these are taken directly from the production line, a specimen of regular current production, your Honor. The particular specimen that was filed with the complaint, Exhibit 2, has quite a lot of parts on it, and we have produced an exact duplicate taken from current production, which I have just handed counsel, which is easier to see the parts that you will be interested in.

The Court: He is talking about Plaintiff's Exhibit 1 now. He has had 2 here. [200]

Mr. Lyon: I should have said 1.

The Court: Then there are two commercial structures?

Mr. Lyon: Two different commercial devices.

Mr. Flam: I offer in evidence the model just produced by counsel for plaintiff.

Mr. Lyon: This second model has a different form of plunger and locking device. I don't know whether your Honor is interested in that. I gave you one of the plungers and locks for Exhibit JJ. Here is one for this model, if you care to use it.

The Court: Do you want to use the plunger, as well as the rest of the device, as has been suggested?

The Witness: I haven't seen the plunger.

(An object was handed to the witness.)

The Witness: I think it would be very well to use not only the plunger, but the two models——

(Testimony of LeRoy J. Leishman.)

The Court: What is that exhibit, Exhibit JJ?

Mr. Flam: No. Exhibit 1.

The Witness: The model Exhibit 1. And I would also like to use the exhibit that has just been offered. Does this have an identifying number yet?

Mr. Flam: No. I offered it in evidence.

The Court: It will be received and marked. As I understand, it is represented by the plaintiff that this exhibit which is now marked as what, Mr. Clerk? [201]

The Clerk: Defendant's Exhibit LL.

The Court (Continuing): LL is the same as Exhibit 1, that is annexed to the complaint, with some of the mechanism that is immaterial to this case divested from it?

Mr. Lyon: That is correct, your Honor.

Mr. Flam: And possibly some of the mechanism that might be of pertinence is not present here, but in the complete model.

Mr. Lyon: There may be some pertinence to some of the other mechanism, but the mechanism has been removed to enable the court to see most easily the tappet and plunger structure and the rocker structure.

Q. (By Mr. Flam): Do you want to talk about the plunger?

A. I would like to talk about all three of them.

Mr. Lyon: I would like to have this lock and the one for Exhibit JJ identified, Mr. Flam.

(Testimony of LeRoy J. Leishman.)

The Court: Is there any difference between the plungers?

Mr. Lyon: They are quite different, your Honor.

The Court: Let's identify the one and attach it.

Mr. Flam: This one I am offering now relates to Exhibit JJ.

Mr. Lyon: Could it be called JJ-1?

The Court: Yes.

Mr. Flam: For identification.

The Clerk: JJ-1, for identification. [202]

(The device was marked as Defendant's Exhibit JJ-1, for identification.)

The Court: You had better attach JJ-1, for identification, to JJ, Mr. Clerk.

Are you offering the other plunger, also?

Mr. Flam: I would like to have this plunger mechanism for explanation of Exhibit LL.

The Court: Mark that as Exhibit LL-1, and attach it to Exhibit LL.

The Witness: I would rather you wouldn't attach it for the time being. I want to use it.

(The device was marked as Defendant's Exhibit LL, for identification.)

Q. (By Mr. Flam): Can you explain to this court the mode of operation and construction of this tuner LL?

A. I think it would facilitate this explanation if I can—and since it is admitted that they are all the same—if I can pass from LL to Plaintiff's

(Testimony of LeRoy J. Leishman.)

Exhibit 1 in the complaint, and explain them interchangeably here. It will facilitate the explanation, I am sure.

I suggest that because there are certain differences which it is agreed are immaterial, but I think it should be pointed out to the court what those differences are, so that it will be known what is material and what isn't.

On Defendant's Exhibit LL the rocker is shown connected [203] directly to the rotor plates or blades of a variable condenser. In Plaintiff's Exhibit 1 filed with the complaint the rocker it attached to the movable cores of a plunger—that is, of a variable permeability tuner of the type that was shown on Plaintiff's Exhibit 2 to the complaint.

Mr. Lyon: I might explain, your Honor, that this tuner of the type which is represented by Exhibit 1 to the complaint and LL here are used by the General Motors Corporation both for tuners of the condenser type and tuners of the permeability type. If that will explain it, one has the condenser type on it and one has the permeability type.

The Witness: As far as the action of the automatic tuning mechanism, it is immaterial whether you use variable permeability tuning or whether you use variable condenser, so that I think we are all agreed it is immaterial in these devices. [204]

* * *

Q. (By Mr. Flam): Will you go ahead with your explanation of the tuner Exhibit LL?

(Testimony of LeRoy J. Leishman.)

A. The tuner Exhibit LL has the recess in the tappet instead of in the rocker, in order to permit the axis of the tappet to become coaxial with the axis of the rocker in the fully-engaged position. In that respect the construction is the same as that shown on Defendant's Exhibit II.

On Defendant's Exhibit LL there is a single tappet, and [206] I have arranged the tappet so that it is now loose and it can be observed that the tappet is free to turn on its external periphery, so that it can take the position of the rocker. It turns on the external periphery. After you position the rocker to the position required to tune in a given set you push in the plunger and the tappet rotates on its phantom axis until the two points of engagement come in contact with the rocker on opposite sides of the axis, and the coaxial relationship we have discussed is still here, but instead of hollowing out the rocker to permit the tappet to go inside of the rocker, the tappet has been hollowed out to permit the axis of the rocker to go down inside of the tappet. Just a reversal there; the opposite member is hollowed out.

That same structure, of course, is used on Plaintiff's Exhibit 1.

The lever LL-1, which is attached to Defendant's Exhibit LL, shows the tappet structure, and when we loosen it it can be seen how the tappet rotates around the center, although instead of having a physical center, it is what you might call an external

(Testimony of LeRoy J. Leishman.)

pivot or circumferential pivot. But it has, of course, an axis of rotation, which is at the center of that circle.

I think that is a sufficient explanation of these models, Mr. Flam, unless you have something that you want to further [207] inquire about.

Q. Can you use this chart for making a further explanation of this mechanism?

Mr. Flam: I would like to have the chart marked for identification.

The Court: Mark it, Mr. Clerk.

The Clerk: Defendant's Exhibit MM, for identification.

(The chart was marked as Defendant's Exhibit MM, for identification.)

Q. (By Mr. Flam): Go ahead.

A. In this chart the figures on the right-hand side are identical to the figures on the right-hand side of the previous chart, which was Defendant's Exhibit KK. The chart that we are now explaining is Defendant's Exhibit MM. On the left-hand side we have illustrated the corresponding positions of the corresponding parts in Plaintiff's Exhibit 1 tuner.

In Figure GM-1 the tappet is shown completely out of engagement with the rocker GM-48 colored green, and it is held in that retracted position by spring GM-73, which corresponds in function to spring 73 in Figure L-1 of the structure from the patent.

(Testimony of LeRoy J. Leishman.)

In Figure GM-2 one side of tappet GM-61 is just engaging one arm of the rocker GM-48, just as in Figure L-2 one arm of the tappet 61 is just engaging one arm of the rocker 48. [208]

In Figure GM-5, the tappet GM-48 is shown in complete engagement with the rocker GM-48, just as the corresponding engaged position for the patent structure is shown in Figure L-5.

And it will be noticed that the tappet in Figure GM-5, the tappet GM-61 in the full engaged position has its axis coaxial with the axis of the rocker GM-48.

The axes are indicated by lines going to the reference figures GM-60 and GM-S.

In Figure GM-3 the tappet is out of engagement with the rocker, the position of the tappet and the manually operable means being the same as in GM-1, but the angular position of the rocker GM-48 is different from what it was in Figure GM-2, or Figure GM-1.

In Figure GM-4 one side, one arm of the tappet GM-61 is just engaging one arm of the tappet GM-48, the rocker being in the same position as in Figure GM-3, and the position of the rocker in GM-4 is generally the same, same angular position as the rocker 48 in L-4.

Then, of course, no matter what one of these various angular positions that the rocker may be found in, when the tappet is in complete engagement the tappet, if having been previously set, will rotate

(Testimony of LeRoy J. Leishman.)

the rocker to the position for which the tappet was adjusted.

Now, in this particular structure I want to call attention [209] to the fact that in Figures L-1, L-2, L-3, and L-4 and L-5 there is a plunger portion on the lever, that actually carries the tappet, and that plunger portion carrying the tappet moves down with the tappet inside the rocker, when the tappet moves to the fully-engaged position shown in L-5.

In Plaintiff's Exhibit 1 tuner the mechanism is operated by a lever, GM-F, and the lever moves the plunger downward so the tappet can be brought into engagement with the rocker. The various positions of the lever from the position shown in GM-2 are shown in the respective figures, in Figure GM-2 the lever has been rotated on its pivot somewhat and the plunger has been pushed part way down so that the engagement is started, and in GM-5 the lever is rotated around its pivot to the position that brings the plunger down so that the tappet can come to the fully-engaged position. In each case the mechanism is operated by levers and the lever acts to bring the plunger down to carry the tappet to the coaxial position with the rocker.

Is that a sufficient explanation?

Q. (By Mr. Flam): I would like to have you point out to the court the lever on the actual mechanism itself. That is Exhibit No. 1, Plaintiff's Exhibit No. 1.

A. In Plaintiff's Exhibit 1—by the way, we have

(Testimony of LeRoy J. Leishman.)

a model here, I hate to get this complicated with models, but [210] there is a case on here which obscures part of the mechanism, and on the other model that hasn't been introduced on our desk, and which was furnished to us by General Motors, the case has been taken off and we can see the lever construction much better.

The Court: Well, I guess one more won't hurt any.

The Witness: Why wouldn't it be all right to reverse these models and introduce that instead of this? This one just has a case on and more is covered up. Why not use that one instead of this?

Mr. Lyon: Unfortunately the one you want to take out is Exhibit 1 to the complaint, and I think that had better stay.

The Court: I think we had better leave that one in.

Mr. Flam: If Mr. Lyon doesn't object, I would like to offer that one in evidence. It is a piece of apparatus that was furnished to Mr. Leishman by the plaintiff in this case to exemplify this tuner mechanism corresponding to Exhibit 1.

Mr. Lyon: I have no objection, your Honor. It is another production specimen with what they call the case left off this time.

The Witness: The case off of the forepart. By removing it the pivot of the lever can be seen extending along——

The Court: What exhibit will it be, Mr. Clerk?

(Testimony of LeRoy J. Leishman.)

The Clerk: Defendant's Exhibit NN in evidence.

(The device referred to was marked Defendant's Exhibit NN, and was received in evidence.)

The Witness: On Defendant's Exhibit NN the various levers are pivoted on a shaft that extends along the front of the radio receiver, and when the buttons are pressed the lever moves around its fulcrum or pivot, as levers always do, pressing down on the plunger, in order to carry the tappet down to the engaged position.

I think it might be well for the court to know on this particular mechanism how the tappet is adjusted. Of course in general it is the same as on Defendant's Exhibit LL, but the adjusting screw is covered up by the lever, so you bring up the lever and the adjusting screw flips out so that it can be loosened in order to loosen the tappet, and then after the station has been tuned in—after the set has been tuned to the station desired, then the button is pressed down so that the tappet will take the position of the rocker, and then is brought out again so that the screw is again accessible and can be tightened. And then after it has been tightened it is pushed back and the button latched down and it is ready for operation. Whenever the button is again actuated the mechanism will return to the position to which it is tuned.

Mr. Flam: I offer the chart MM in evidence.

The Court: It will be received.

(Testimony of LeRoy J. Leishman.)

The Clerk: Defendant's Exhibit MM in evidence.

(The chart referred to was marked Defendants' Exhibit MM, and was received in evidence.)

Q. (By Mr. Flam): I think you mentioned yesterday, Mr. Leishman, that on a telephone dial type of tuner and motor-driven type of tuner automatic frequency control circuits were necessary?

A. That is correct. [213]

Q. Were such circuits necessary in connection with the tuners of the type in which the tappet and rocker are used and in which the tappet and rocker become coaxial in the fully engaged position?

A. No. Automatic frequency control circuits are not required with tuners of the type that you have inquired about.

Q. What does the automatic frequency control circuit usually consist of?

A. It consists of a circuit too complicated to describe. But in connection with the circuit it is necessary to use at least one tube. I think Dr. Mackeown being an expert in electronics can explain that better than I can. But it was a circuit that added an appreciable amount to the cost of the radio receiver, and it isn't required with tuners of the coaxial rocker and tappet construction.

The Court: Is there any use of exploring that if it isn't in this case at this time? How would it enlighten the case here?

(Testimony of LeRoy J. Leishman.)

Mr. Flam: Regarding the use of automatic frequency control circuits, your Honor?

The Court: Yes.

Mr. Flam: This very simple mechanism that is the subject matter of the patent provides a tuner so accurate that these extra special circuits may be discarded, and it [214] goes to a showing of invention. Up to 1938 these telephone dial type tuners and motor-driven tuners were used commercially because that was the best the radio industry had, but it couldn't be used without this expensive circuit.

* * *

Q. (By Mr. Flam): I will ask this question, then: Did the development of the automatic frequency control circuits make it feasible to use your devices, including a coaxial rocker and tappet arrangement that you have testified about?

A. No. On the other hand, instead of the automatic frequency control circuit making it possible to use my device, my device made it unnecessary to use the automatic frequency control circuit. It didn't in any way contribute [217] to the use of my coaxial rocker and tappet tuner. It wasn't required. Insofar as I know it has never been used with any radio set using a coaxial rocker and tappet tuner.

Q. You mentioned yesterday that motor-driven tuners had been used, I think you said, in the years 1936 and 1937. Were they in common use after the type of tuner exemplified by the Crosley device then on the market? I want to find the exhibit.

(Testimony of LeRoy J. Leishman.)

A. I don't have it up here.

Q. Here it is. That is Exhibit BB.

A. No. Those that were already in the hands of the public probably continued to be used. But as far as I know, no manufacturer manufactured a motor-driven tuner after that time. If they did, they were a rarity and they were an unusual thing in the lines of radio manufacturers. I don't know of any.

Q. What about the telephone dial type of tuner, did they continue in popularity after February or the latter part of the year 1938?

A. As far as I know, no new radio receiver, that is, no newly designed radio receiver, came on the market after the coaxial rocker and tappet tuners appeared. Some manufacturers may have continued to make some models that were already in production, but no new models were introduced using telephone dial type tuners. [218]

Q. When your patent No. 2,108,538 issued, this patent being in evidence as Exhibit Q, did you know of any other patent that was applied for earlier than yours which showed the coaxial position of the rocker and the tappet in the tuned-in position?

Mr. Lyon: If your Honor please, I think that patent should be produced if there is one. We don't want to have his testimony as to what are the contents of some written instrument.

The Court: I suppose he is trying to negative it. Aren't you?

(Testimony of LeRoy J. Leishman.)

Mr. Flam: Yes.

A. I don't know of any patent that was applied for before the -538 patent issued that showed the coaxial rocker and tappet construction.

Q. (By Mr. Flam): After that patent issued have you run across any patents or patent applications that showed that relationship?

A. Yes, aside from a patent applied for by the Crosley Corporation on their tuner, which inadvertently didn't show the rocker and tappet as perfectly coaxial, although the actual device was coaxial——

Mr. Lyon: If your Honor please, this is an argument.

Q. (By Mr. Flam): Do you have the file wrapper of the Crosley application? [219]

A. Yes, it is here, I think, in the case there containing a good many file wrappers.

Q. We have a file wrapper that was introduced in evidence in the Associated Wholesale Electric case as Plaintiff's Exhibit 21, the file wrapper of application of Howard J. Tyzzer, filed February 24th, 1938, serial No. 192,258. How were you able to get a file wrapper of this application, Mr. Leishman?

A. The patent had not yet issued, but an application owned by me was in interference with the Tyzzer application, and when interferences arise in the Patent Office all parties to the interference are entitled to obtain file wrappers of the other applications in the same interference, and that is how I obtained this.

(Testimony of LeRoy J. Leishman.)

Q. Can you point out in that file wrapper where the tappet and rocker are shown?

A. The tappet and rocker are shown on the pages of the drawings on pages 18 and 19 of the file wrapper.

Q. Does that show a coaxial arrangement with a tappet and rocker?

A. Although the tuner had a rocker and tappet that were coaxial, in this drawing the draftsman who drew them up, and probably had this coaxial tappet and rocker right before him, apparently didn't realize the importance of it and he didn't make them coaxial. [220]

Mr. Lyon: I object to that, your Honor, as purely speculative and interpreting a written instrument which is the province of the court.

The Court: Yes, I think so. Sustained.

Mr. Flam: I offer the file wrapper in evidence.

The Court: It will be received.

The Clerk: Defendant's Exhibit OO in evidence.

(The file wrapper referred to was marked Defendant's Exhibit OO, and was received in evidence.) [221]

* * *

Q. Do you know how many tuners have been sold under your license with the Crowe Name-Plate & Manufacturing Company that incorporates the coaxial rocker and tappet feature?

A. Only about 50,000.

(Testimony of LeRoy J. Leishman.)

Q. Do you have any knowledge as to the volume of tuners sold by the Crosley Corporation as shown in Exhibit BB?

Mr. Lyon: I would like to know the source of the knowledge [223] when the witness is asked those questions, if he has any knowledge I would like to know what it is before he gives an answer.

Mr. Flam: I was going into that.

Q. (By Mr. Flam): Do you have any knowledge of it, first of all?

A. The only knowledge I have is the knowledge furnished by the Crosley Corporation as evidence in their behalf in the Associated case, and it was to the effect that 285,000 of them had been made previous to the time when the information was furnished.

Q. That would be up to what year?

A. I think it would be the Fall of 1940. That case was tried in 1940, and I think the information was supplied at the time of the trial or shortly before.

The Court: The opinion is dated January 31, 1941. [224]

The Witness: I think the case was tried in October. Somehow the date of October 20th is in my mind. But that may be incorrect.

Mr. Flam: I may call it to your Honor's attention in the record of the Associated Wholesale Electric case, Volume I, pages 17 and 18, which are answers to Plaintiff's interrogatories. [225]

(Testimony of LeRoy J. Leishman.)

Q. (By Mr. Flam): Do you know for what purpose the Radio Condenser Manufacturing Company and General Instrument Corporation were manufacturing these tuners shown in Exhibits II and HH?

A. They were manufactured for sale to radio manufacturers to be installed in the radio receivers that they, in turn, sold to the public through their jobbers and dealers.

Q. That is, they themselves did not incorporate these tuners in any sets, they were sold to set manufacturers, is that correct?

A. That's correct. [226]

Q. What is their position in the industry with regard to the other manufacturers of this type of equipment for radio manufacturers?

A. As far as I know, all of the coaxial rocker and tappet tuners that have been made since 1938 were made by Radio Condenser, General Instrument Corporation, and Crowe in conjunction with Quality. But by far the greater amount were made by Radio Condenser and General Instrument Corporation. Most manufacturers bought tuners from those companies. In fact, they sold tuners to a large number of manufacturers for their radio receivers. [227]

* * *

Q. (By Mr. Flam): Were plungers known in the automatic tuning art when your patent No. 2,108,538 was granted?

(Testimony of LeRoy J. Leishman.)

A. Yes, a good many patents had issued at that time on tuners operated by plungers. [229]

* * *

Q. (By Mr. Flam): Can you state in your own words what is meant by a plunger, without referring to a dictionary?

A. A plunger is any device that moves in and out of something else with a reciprocating motion, as does the little cores that move in and out of the coils in the permeability turners that we have discussed here, or the iron cores in sucking coils or solenoids. [236]

Q. Do plungers have to move in a straight line?

A. No. So long as they have a reciprocating motion and move into something they are still plungers.

Q. Do you have any examples of such plungers that do not move in a straight line?

A. Yes, sir, I do. They are used in——

Q. Let me have them.

A. Do you want all of them, or one at a time?

Q. One at a time.

A. This tells what they are.

Mr. Flam: Mr. Lyon, we haven't bothered to get a complete record——

The Court: I can't hear you, Mr. Flam.

Mr. Flam: We haven't bothered with getting a complete record of the dates of publication of these books of which we took photostatic copies.

(Testimony of LeRoy J. Leishman.)

Of course, it is possible for us to do that if counsel would insist upon our doing it.

Mr. Lyon: No. If the books are competent, I don't object to using photostat copies, and I don't require any proof of the books, if the title page appears and the date.

Q. (By Mr. Flam): Will you go ahead, Mr. Leishman?

A. Do you want me to refer to portions in these books that are pertinent?

Q. Just refer to the title of the book and the place where it mentions plungers. [237]

A. One such use of plungers is mentioned in *The Elements of Alternating Currents* by W. S. Franklin and R. B. Williamson, published by the Macmillan Company of London in 1901, and on page 41 of that book the paragraph numbered 36—

Mr. Lyon: I think the book speaks for itself if it is competent.

Q. (By Mr. Flam): You are referring to that particular paragraph?

A. I am merely referring to the paragraph marked 36, which refers to plunger-type ammeters and voltmeters. That is the paragraph.

Mr. Flam: I offer this copy in evidence of the book by Franklin and Williamson.

Mr. Lyon: I object on the ground it is incompetent and irrelevant. The witness, I don't believe, has the right on direct examination to bolster up his views with the statements from other people, whether they are in print or not.

(Testimony of LeRoy J. Leishman.)

The Court: If it is a recognized medium of scientific information, I think it is admissible. I do not know what it is. I do not know a thing about it. That doesn't mean that it hasn't great efficacy, however. Objection overruled.

Is this book available here in the United States?

The Witness: Yes. They have a copy in the Los Angeles [238] Public Library. In fact, I borrowed the book from the Los Angeles Public Library. Or else these photostats were made by the Library. I have forgotten which. But at least I had the books.

The Court: The title of the book is as stated on the exhibit, is it?

The Witness: That is correct, that is the title page to identify the book.

The Court: Does it purport to be a book that is devoted only to this specialty of physics, alternating currents?

The Witness: That is correct. And it discusses devices, of course, used in measuring alternating currents and different things pertaining to alternating currents. It is a text, a reference work on the subject.

It also, I think, is printed in New York. You will notice on the title page just above where it says "Macmillan Company" it mentions New York; whereas London appears under it.

The Court: It doesn't seem to be complete. The sentence on page 41 seems to stop with the word "such."

(Testimony of LeRoy J. Leishman.)

The Witness: It was the single sentence that has been indicated that was pertinent.

The Court: Well, if the book is available, of course the other side can get the contextual part. I don't see that there would be any limitation on amplification, or [239] restriction to that which is contained in the first paragraph.

Objection is overruled.

The Clerk: Defendant's Exhibit PP in evidence.

(The documents referred to were marked Defendant's Exhibit PP, and were received in evidence.)

Q. (By Mr. Flam): Do you have any other samples of plungers described in publications, Mr. Leishman?

A. Yes, I have similar photographic copies showing a description and actual drawing——

Mr. Lyon: I don't think the witness should testify as to what the publication shows.

The Court: No. The paper will speak for itself if it is admissible.

Q. (By Mr. Flam): Will you identify this publication to which you are now referring?

A. A Dictionary of Applied Physics, edited by Sir Richard Glazebrook.

Q. What volume and where was it published?

A. A five-volume work, and the volume that I refer to is Volume II on Electricity. This book is published by Macmillan & Company, Limited,

(Testimony of LeRoy J. Leishman.)

St. Martin's Street, London; and this is also available in the United States. It is a reference and a text.

Q. Was that found in the Library here, do you know? [240]

A. As I remember, this book is also in the Los Angeles Public Library.

Q. What page do you refer to?

A. The pages that I have reference to are pages 1018 and 1019.

Q. What is there on 1019 that is of particular interest?

Mr. Lyon: I object to that on the ground that the document speaks for itself.

Mr. Flam: I just wanted to eliminate those parts that are not of any interest, but it is all right if there is an objection.

Mr. Lyon: Counsel can point that out as well as the witness.

The Court: Yes, I think so. The writing is self-explanatory, I take it, and such portions of it that are relevant can be specified.

Mr. Flam: Very well. I offer the document referred to by the witness and entitled A Dictionary of Applied Physics in evidence.

Mr. Lyon: I am not objecting to the use of the photostat copy, but I make the same objection that I did to Exhibit PP.

The Court: Objection overruled.

The Clerk: Defendant's Exhibit QQ in evidence.

(Testimony of LeRoy J. Leishman.)

(The document referred to was marked Defendant's Exhibit QQ, and was received in evidence.)

Q. (By Mr. Flam): Mr. Leishman, I believe you have one more example of the type of plungers referred to in the last two exhibits; can you identify that? A. Yes.

Q. May I have one for Mr. Lyon?

A. Yes.

Q. Will you state what this publication is of which you have produced a photostatic copy?

A. This is a book entitled Electrical Measurement and was a text used in the vocational education program for national defense, and the pertinent page is page 30.

Q. Figure 30 on that page, is that right?

A. Figure 30.

Mr. Flam: Your Honor, I offer this document in evidence, of the Electrical Measurement.

Mr. Lyon: The same objection is entered as to Exhibits PP and QQ, your Honor.

The Court: There is nothing on this proffer that indicates when the material was publicized. It must have been recently if you are referring to the last war.

The Witness: I think it was the last war, your Honor. I don't remember when it was published. My reference to it was only as an example of the type of plunger meters mentioned [242] in the first work referred to.

(Testimony of LeRoy J. Leishman.)

Mr. Lyon: I move to strike the last statement as volunteered. If it was brought in by a question, I would object to it on the ground it is incompetent and no foundation laid. The court will have to determine for itself whether this Exhibit PP refers or does not refer to something that is in Exhibit RR.

The Court: I think so. Anything that will throw light on the problem in physics, the scientific aspect of the alleged invention, which shows that at a time contemporaneously with the patent, activities in these matters were known or were not known, is relevant; but to take something in vocational training since World War II doesn't throw much light upon what was in the mind or what the concept of the patentee or inventor was.

Mr. Flam: Your Honor, I don't believe it is particularly important as to whether it was available to the public before or after the application that matured into a patent. This is merely an illustration of the understanding or definition of what plungers might be like, their appearance, and we expect to show that these plungers have very much the same form as the form of device in the patent in suit upon which the adjustable tappet is mounted.

I think if your Honor refuses to admit this, we have enough in the other two publications, anyway, to show that [243] general type of plunger.

The Court: If I conceive the concrete purpose

(Testimony of LeRoy J. Leishman.)

of the offer, it is to fortify a position that this is a generic patent, and that the use of the terms is broad in its aspect instead of narrow in its application, is that right, is that the concept?

Mr. Flam: Every patent, of course, can be termed generic for whatever it covers, but that is where the trouble arises, we insist that this patent is not limited to any particular way in which these two essential elements are moved together, whether it is a lever or a plunger. Some quibbling has been done by other opponents of Mr. Leishman on that point, and our present line of testimony is an effort to show that so far as the broad definition of a plunger is concerned a plunger is shown in the reissue patent. It happens to be attached to a lever, that's all, and the type of plunger shown in these publications substantiate that. I don't think it is particularly material, if your Honor doesn't feel that this is properly introduced in evidence.

The Court: I will sustain the objection.

Mr. Flam: I would like to have it marked for identification.

The Court: Mark it for identification.

The Clerk: Defendant's Exhibit RR, for identification. [244]

(The document referred to was marked Defendant's Exhibit RR, for identification.)

Q. (By Mr. Flam): Mr. Leishman, in connection with Exhibits PP and QQ that have been received in evidence, can you compare the structure

(Testimony of LeRoy J. Leishman.)

shown or described in these publications with the structure shown in your re-issue patent, Exhibit A?

A. Which is QQ?

Q. QQ is the Glazebrook publication.

A. In the device of Figure 44, if we orient it to a more convenient position for comparison, in which the lower right-hand corner is tilted, we can see the plunger A in Figure 44 that moves into the solenoid or sucking core structure E, and if we look at Figure 2 in the re-issue patent it will be observed that the portion 57 attached to the plunger moves in and out of the rocker 48 in just the same manner, both move in an arcuate or curvilinear line, rather than in a straight line. Both are plungers.

Q. Mr. Leishman, I hand you a chart upon which colored diagrams are present. Will you please identify what these parts are intended to represent?

A. Shown in red we have the tappet as shown in the re-issue patent, and in green we have the rocker shown in the re-issue patent. The figure below is identical to the figure above. [245]

Q. Can you draw in a lever showing the tappet mounted on a lever in the upper picture?

A. (Witness drawing on diagram): There we have it.

Q. Now will you show what a draftsman would need to do to mount the tappet upon a plunger in connection with the lower part of this chart?

A. All you need to do is extend the plunger por-

(Testimony of LeRoy J. Leishman.)

tion and provide guides for the plunger. (Witness drawing on diagram.)

Mr. Flam: I offer the chart referred to by the witness in evidence.

The Court: The record will show that the witness as he narrated his answer was drawing, and the drawings appear in black. Is that black? It looks like it from here.

The Witness: Yes.

The Court: Black pencil drawing. It will be received.

The Clerk: Defendant's Exhibit SS in evidence.

(The chart referred to was marked Defendant's Exhibit SS and received in evidence.)

The Court: Will you point out on your reissue patent in suit where you think that is described other than diagrammatically?

The Witness: I don't know that it is described other than diagrammatically. The portion that I refer to as a portion is the portion 57, shown in Figure 52. That is the [246] portion 57 that moves in and out of the rocker portion.

The Court: You mean Figure 2? You said Figure 52.

The Witness: I beg your pardon. Figure 2, I meant. I meant the portion 57 attached to the lever which portion extends into Figure 2.

The Court: You can't point out anything in your specifications, in the verbiage in your patent, with any greater precision than the diagram itself or drawing itself?

(Testimony of LeRoy J. Leishman.)

The Witness: I might look at it for a minute and see.

In line 35, column 2, of the first page of the specifications of the patent, reference is made to the extension 57. It says:

“The extension 57 carries a pin 60, on which are pivoted tappets 61 and 62 having hubs 63 and 64 respectively, shown most clearly in Fig. 3.”

Then at the bottom of that same paragraph beginning at line 54 the action of the whole assembly in moving up is stated in the sentence which says: “This lever assembly is raised up from the position shown to an inoperative position by spring 73 attached to the lever at 74 and to a stationary support at 75.”

Then referring to the return position on page 2, the first column, beginning at line 30, the patent says:

“When the lever assembly is all the way down, it will be observed from Fig. 2 that the pin 60 is substantially coaxial with the rockers 48 and 54, which means that in this position it is also coaxial with shafts S, 49 and 25 are therefore all approximately equidistant from the fulcrum Q.”

So the position shown in the figures in which the plunger portion 57 will be inside the rocker is indicated in that paragraph, and the raised position is indicated in the earlier portion beginning at line 54 on page 1 of the specification.

Q. (By Mr. Flam): Would it be difficult, Mr.

(Testimony of LeRoy J. Leishman.)

Leishman, to make a plunger type tuner in which the plunger would not go through the rocker entirely? A. No, that is very easy to do. [248]

* * *

Q. (By Mr. Flam): I have Exhibits EE and II before you; can you point out to the court how the plunger is arranged with relation to the rocker in these exhibits? [250]

A. In Exhibit EE the plunger is located all on one side of the rocker, and the plunger 8 doesn't pass through the rocker 4, and in Exhibit II the plunger detours around the rocker, so that the plunger—I don't find a reference number on it—the plunger shown in blue does not pass through the rocker 4.

Q. (By Mr. Flam): Is there any similarity in that connection with Plaintiff's Exhibit 1 device?

A. In Plaintiff's Exhibit 1 with the complaint the plunger does not pass through the rocker, the plunger and tappet construction being substantially like that shown on Exhibit II. The plunger detours under the rocker.

Q. I want to call your attention to the patent of Soffietti.

Mr. Lyon: Exhibit J, Mr. Flam.

Mr. Flam: It is No. 34 in the book of patents.

Q. (By Mr. Flam): Does the plunger pass through the rocker in that structure?

A. No, the plunger does not pass through the rocker in the structure shown in Figure 4 in the

(Testimony of LeRoy J. Leishman.)

Soffietti patent No. 2,388,581, which is No. 34 in Defendant's Exhibit—

The Clerk: It is the book of patents, Mr. Leishman.

A. (Continuing): —in the book of patents. The plunger is entirely on one side.

The Court: It is Exhibit J. [251]

The Witness: Yes, Exhibit J.

A. (Continuing): —the plunger in Figure 4 and the tappets are all on one side of the rocker. That, by the way, is Figure 6, not Figure 4. In fact, in each case in this explanation I should have referred to Figure 6, rather than Figure 4.

Q. (By Mr. Flam): I show you the Lane and Mackey drawing Exhibit K-1. Will you state what the relationship is of the rocker and tappet in that exhibit?

A. The tappet plunger and rocker arrangement shown on Defendant's Exhibit K-1, the plunger is all on one side of the rocker 11 shown in green, and the plunger does not pass through the rocker.

Q. When the plunger does pass through the rocker as in some of these exhibits, do the rocker and tappet naturally become coaxial?

A. No. It is necessary that the tappet be especially shaped with respect to the rocker, or that the rocker be especially shaped with respect to the tappet, so that they will come into coaxial alignment.

Q. I think you referred to the Lane and Mackey drawing. What would happen if you passed the

(Testimony of LeRoy J. Leishman.)

plunger through the rocker there? Would it become coaxial?

A. No. In the Lane and Mackey drawing if an opening were to be made in the rocker, and the plunger were to pass [252 and 253] through or into the rocker, the tappet would not be coaxial with the rocker, because they have not been properly shaped with respect to each other in order to achieve that relationship.

Q. I show you Exhibit OO, the Tyzzer file wrapper, that shows a tappet and rocker arrangement in which the plunger passes through the rocker, does it not? A. Yes, it does.

Q. Are the rocker and tappet coaxial in the fully engaged position in that disclosure?

A. Not as shown in the drawings.

Q. Do you have any further diagrams based upon this exhibit to show the court why these parts are not coaxial?

A. Yes, I have photographic reproductions of portions from page 18 and 19 of this file wrapper. I will have to locate them. I have them here. These are figures from those pages.

Q. Can you show the court this drawing that you had made from the Tyzzer application and explain the positions of the rocker and tappet?

A. In Figure 6 shown on the reproduction the tappet has been colored red, this is a photographic reproduction of the tappet as drawn in the patent specification, and I have drawn a rocker in green

(Testimony of LeRoy J. Leishman.)

in conformity with the rocker shown in Figure 2 and Figure 5, and it will be noticed that the axis of the tappet 39, the axis being indicated by the numeral 30, is not in alignment with the axis of the rocker drawn in in green.

Q. Is that rocker shown as No. 7 in Figure 5?

A. Yes, it is. It is additionally possible to draw a line on these figures, Figure 2 and Figure 5, along the edge of the tappet to show that if the tappet were formed as shown in Figure 2 and Figure 5, that the coaxial alignment would not prevail. I can draw such a line.

Q. Can you do so?

A. On the exhibit?

Q. Yes, the exhibit. On the chart which you made from Exhibit OO.

A. I have drawn pencil lines marking them X against the tappet 31 in Figure 2 and against the tappet furthest to the right in Figure 5, and that line represents the plane of the surface of the tappet 7 as shown in Figure 7. So if the tappet 30 in Figure 1 were brought into alignment with the tappet, the tappet would engage a straight line as represented by Figure X. That would be the nearest surface of the rocker 7, and it can be seen that inasmuch as the axis of the tappet 7 would be just about a thirty-second of an inch below the surface of rocker 7, that the axis 30 of the tappet could not possibly come into coaxial alignment with the axis of the rocker 7, if the rocker and the

(Testimony of LeRoy J. Leishman.)

tappet were [255] shaped as shown in these figures.

Mr. Flam: I offer the document referred to by the witness in evidence.

The Court: It will be received.

The Clerk: Exhibit TT in evidence.

(The document referred to was marked Exhibit TT and received in evidence.)

Q. (By Mr. Flam): I think you mentioned yesterday that you had licensed Crowe Name-Plate Manufacturing Company?

A. That is correct.

Q. Do you have any advertisements relating to the licensed devices? I show you this.

Mr. Lyon: Will you read that question to me, please?

(The question was read.)

A. I licensed the Crowe Name-Plate and Manufacturing Company under all of my patents, and the first patent under which I licensed them was the -851 patent which issued in June, 1937. There is an advertisement on page 41 of Electronics for October, 1937, which was introduced as Defendant's physical Exhibit O with the motion for summary judgment. This tuner shown in the advertisement on page 41 is a tuner as constructed according to my disclosure in the application that issued as the -343 patent, which was mentioned yesterday as having means for gaining access to the set screw through tabs on the front of the set.

(Testimony of LeRoy J. Leishman.)

Such an [256] arrangement is shown in the illustration in the advertisement, and the patent number of the then issued patent 2,084,851 is given in the lower right-hand corner of the ad.

Mr. Flam: I offer page 41 of that issue of Electronics in evidence.

The Court: It will be received.

The Clerk: Defendant's Exhibit UU in evidence.

(The document referred to was marked Defendant's Exhibit UU and received in evidence.)

Mr. Flam: Your Honor, I have here a certified copy of certain papers obtained from the Patent Office in connection with William L. Jackie patent which is already in evidence. These are certified documents showing the very large number of interferences which have been declared among Jackie and numerous other inventors relating to automatic tuners. The purpose of this offer is to show that there was very great activity in this period when these interferences were declared, and they are all dated, in connection with the devising of a satisfactory automatic tuner. I offer that in evidence for that purpose, your Honor.

The Court: It will be received.

Mr. Lyon: This interference, as I understand it, doesn't involve any point of Mr. Leishman's patent, or what he contends the point of his patent is. These interferences were about some collateral

(Testimony of LeRoy J. Leishman.)

matter entirely. It seems to me [257] they are far too remote.

The Court: I am not going to examine minutely in the trial of this case each of these pages to determine whether that is true or not. You can discuss it in your briefs, if the case is to be briefed, as to what pertinency it has to the problem before the court.

Mr. Lyon: I appreciate that, your Honor.

The Clerk: Defendant's Exhibit VV in evidence.

(The documents referred to were marked Defendant's Exhibit VV and received in evidence.)

Mr. Lyon: I merely make these objections, your Honor, so when you do have the transcript before you you will know that I am raising the point.

The Court: I am not making notes because we have a transcript, and I am very glad you have. In some of these cases we don't have one.

Mr. Flam: You may cross-examine.

Mr. Lyon: Was that Jackie file wrapper received?

Mr. Flam: I should have shown it to you.

Mr. Lyon: Never mind showing it to me. What exhibit is it?

The Clerk: VV. [258]

Cross-Examination

By Mr. L. S. Lyon, Sr.:

Q. Mr. Leishman, has any commercial device

(Testimony of LeRoy J. Leishman.)

ever been built in accordance with the drawings of your reissue patent here in suit No. 2,827? And by that I include with the double rocker 48 and 54.

A. Will you read the first part of that question again?

(The question was read by the reporter.)

The Witness: No.

Q. (By Mr. Lyon): Has any commercial device ever been built in accordance with the drawings of your reissue patent 20,827? And by that I include that the tappet member is carried by a lever pivoted at a point corresponding to the point Q shown in Figure 2 of your patent drawings. A. No.

Q. The only royalties that you have ever received from any licensees under the patent in suit based on any devices that you contend were manufactured under the patent in suit were from the Crowe Name-Plate—and what other company?

A. They operated in connection with Quality Hardware and Manufacturing Company, but my royalties came through Crowe Name-Plate and Manufacturing Company.

Q. From that company only? [259]

A. That is correct.

Q. One licensee? A. That is correct.

Q. How long has it been since you received any royalties from them?

A. I received no royalties on tuners actually manufactured since the Radio Condenser and General Instrument and General Motors tuners came into general use.

(Testimony of LeRoy J. Leishman.)

Q. Can you just tell us what the date was, instead of the circumstances?

A. I think I received no royalties since 1940.

Q. And the devices on which you did receive royalties from that licensee were all of the type in which the tappet was mounted on a plunger which was not pivoted, is that correct?

A. That is correct.

Q. Are automatic mechanical tuners employing adjustable tappets used primarily for automobile radio sets?

A. I think not. They are used also in household sets, and I think the greater number are used in household sets.

Q. Is that true of the present production of radios?

A. As far as I know it is, but I am not able to give competent testimony on that matter because I haven't examined any radio sets with any degree of care during the last year or two, or since the war, as a matter of fact. All that I have [260] seen is what I might have happened to have noticed in passing windows or in other peoples' automobiles.

Q. Will you name the home radio receivers that are being marketed today that you know employ automatic push button tuning with adjustable tappets?

A. I have paid very little attention to them——

Q. I am not asking you for the argument; just the answer.

(Testimony of LeRoy J. Leishman.)

A. I have seen several, but I can't mention the makes for sure, but I believe that——

Q. I don't want a guess, Mr. Leishman.

A. All right.

Q. Let's talk about the principal home receiver manufacturers. Do you know whether such a tuner is employed on the R. C. A. models being offered for sale at this time?

A. I haven't seen any of their sets.

Q. Will you just answer yes or no whether you know or not? A. No, I do not.

Q. How about the General Electric sets?

A. I have no knowledge of their sets.

Q. How about the Westinghouse sets?

A. I have never seen one of their sets.

Q. How about the Philco sets? [261]

A. To my knowledge I haven't seen one of the current Philco sets.

Q. How about the Stromberg sets?

A. I haven't seen one of those that I know of.

Q. How about the Farnsworth sets?

A. I have never seen a Farnsworth set excepting through a window, and I am not familiar with their line at all.

Q. Don't you know that, as a matter of fact, automatic tuners are not being employed to any extent on home sets being currently sold?

A. No, I don't think that is true. I have seen automatic tuners, push buttons, on large numbers of them as I have passed them in the windows and noticed them in the homes of my friends.

(Testimony of LeRoy J. Leishman.)

Q. What sets?

A. I have paid little attention to it, but I believe my brother has a Magnavox with it on.

Q. When was that?

A. That was one bought since the war.

Q. When, do you know?

A. About a year ago.

Q. You have told us as definitely as you can whether automatic tuners having adjustable tappets and rockers are now being equipped on home receivers that are being offered [261] for sale at this time?

A. I have answered your questions on that matter as well as I can, to my knowledge.

Q. Now, upon automobile radios, and I am referring to the current car manufacturers' radios, that is, the sets that the car manufacturers originally equipped their cars with—do you know whether or not the present Chrysler line of Plymouth, Dodge, DeSoto and Chrysler have tuners of the adjustable tappet and rocker type?

A. No, I don't know.

Q. Can you answer that question as to the Ford?

A. No, I am not familiar with what the Ford has.

Q. Can you answer that question as to the Packard?

A. No.

Q. Can you answer that question as to the Studebaker?

A. I can't answer it with respect to any automobile.

(Testimony of LeRoy J. Leishman.)

Q. You can't answer it with respect to the Nash?

A. No, I can't.

Q. Or the Hudson? A. Not any.

Q. Or the Kaiser-Fraser?

A. I can't answer with respect to that either.

Q. Can you answer as to whether any of those makes of cars that I have enumerated have ever been equipped by the [262] manufacturers with tuners of the type utilizing adjustable tappets and rockers?

A. I would have to go through that entire list again with that in mind. You asked me about the present production.

Q. I will read you the list again. Ford?

A. I can't state with any certainty, but I am quite sure that they did use them.

Q. I don't want any guessing about it. Packard?

A. Yes, Packard used them.

Q. When?

A. As near as I can tell, somewhere between '39 and the spring of '42.

Q. Not since?

A. I don't know what they have done since.

Q. Studebaker?

A. I am not at all familiar with what Studebaker has done along that line.

Q. Nash?

A. By the way, I can give you accurate information on some of this stuff if I could do it after referring to information that I have at home.

(Testimony of LeRoy J. Leishman.)

Q. We have to take your information as it is now.

A. I can't say definitely as to whether Nash used them or not.

Q. Hudson? [263]

A. I can give you no definite information on that.

Q. Kaiser-Frazier?

A. They didn't manufacture before the war.

Q. The answer is you don't know of them ever having used a tuner of the type I have stated?

A. I don't know whether they have or not.

Q. Are you prepared to state whether any of the tuners that are equipped by the car manufacturers that I have enumerated have ever used this feature of coaxiality which you are referring to?

A. Yes, a large number of them have.

Q. Which ones and when?

A. I can't tell you which ones, but I can answer the when generally. Before the war. All of the tuners involved in the Oklahoma case——

Q. I am not asking you about the Oklahoma case; I am asking you something about these particular car manufacturers, their factory equipment that comes with the car furnished by the car manufacturer, whether they ever, to your knowledge, these particular ones, used this feature of coaxiality that you have referred to.

A. A great many of them did.

Q. Which ones?

(Testimony of LeRoy J. Leishman.)

A. I can't tell you that information. I don't have it here. [264]

Q. Can you give the dates?

A. Previous to April, 1942.

Q. How long previous?

A. As far as I know right up to that time.

Q. Do you know?

A. The only information that I definitely have on that is the information in the Galvin Manufacturing catalog as to those that they manufactured and which manufacturers they made them for.

Q. Never mind telling me what is in the catalog. I am asking you if you know. Take the Studebaker, have they ever used a tuner having that feature? A. I have no idea.

Q. Take the Ford, have they ever in their factory equipment?

A. I can give no definite answer on that.

Q. Do you think Packard did sometime prior to 1942?

A. I think Packard did, and a good many of the others.

Q. Which ones?

A. I think I made it very clear that I can't give you that information here. I have the data at home.

Q. None of those car radios employed an adjustable tappet which was mounted on a member which was pivoted at a point like the point Q shown in your patent drawings, isn't that correct? [265]

(Testimony of LeRoy J. Leishman.)

A. I think that is correct.

Q. Have any of the tuners employing adjustable tappets and rockers and this feature of coaxiality that you have referred to ever been used with A.F.C., to your knowledge?

A. Not to my knowledge.

Q. Do you know they have not?

A. No, I don't know that it has never been done. I couldn't possibly know that.

Q. Can you give us the name of any home receiver manufacturer who is now equipping his radio tuners of the adjustable tappet and rocker type and using coaxiality?

A. I can't give you the name now, but I think all those that are using the tappet and rocker tuners would have the coaxial relationship.

Q. I am not asking you that; I am asking you if you know of any of them that are using it?

A. I am not familiar with what any manufacturer is doing along that line now.

Q. Do you know whether or not A.F.C. is being used with that type of tuner in any instance?

A. I don't know. I know that it wouldn't be necessary. In all cases with which I am familiar it was not used.

Q. Let's not have an argument, Mr. Leishman. I asked you a question and you said you didn't know, in answer [266] to my last question. How many patents dating back of 1937 do you know of which described automatic radio tuners utilizing adjustable tappets and rockers?

(Testimony of LeRoy J. Leishman.)

A. When you say "dating back," do you mean the filing date or the issuing date?

Q. Filing date first, and the issue date second.

A. There was the Marschalk patent. Did you say adjustable rockers and tappets?

Q. Adjustable tappets and rockers.

A. The only one with which I am familiar that issued in 1937 or before was the Marschalk tuner.

Q. Were there any tuners on the market prior to 1937 which used adjustable tappets and rockers?

A. No, there were not.

Q. At the time you applied for the patent application in 1934, in Figures 14 and 15 of which you showed the drawings which later became the drawings of the reissue patent in suit, you thought you were the first to design a tuner which had an adjustable tappet and rocker, did you not?

A. Yes, I did.

Q. And you found out later that that idea was anticipated by this Marschalk patent to which you have referred, is that correct?

A. I found that the idea of using an adjustable tappet on a rocker was anticipated by Marschalk.

Q. When did you find that out?

A. I found out that that part of the mechanism, rocker and tappet, had been used in the Marschalk device, when I received a communication from the Patent Office in connection with another of my patent applications in which the Marschalk device was cited as a reference. [268]

(Testimony of LeRoy J. Leishman.)

Q. And what was the date of the receipt of that communication?

A. That was sometime in October, 1937.

Q. Was the reason that you filed a disclaimer of claim 5, the disclaimer being set forth on the face of the copy of the reissue patent, which is here in evidence Exhibit A, being dated February 14, 1939, because of that showing in the Marschalk patent?

A. No. It was due to a letter that I received from Mr. Maxwell James, counsel for Radio Condenser Company and General Instrument Corporation.

Q. And have you got that letter?

A. I probably have that letter in my files.

Q. Will you bring it to court if you can?

A. If——

Q. I think there was a copy of that letter.

A. There may be some objection to it.

Q. (Continuing): In the case before Judge Harrison.

Mr. Flam: If your Honor please, I know what this is getting at. This letter addressed to Mr. Leishman by Mr. James is a letter in which Mr. James expresses the opinion that the patent isn't worth the paper it is written on. It is a sort of a way of getting the opinion of another attorney on a question of validity in here. I think that we should merely say that the only pertinent part of that letter [269] is that the letter does call attention to the Marschalk patent. I think that is true.

Q. (By Mr. Lyon): And was it because of the

(Testimony of LeRoy J. Leishman.)

reference in that letter to the Marschalk patent that you filed this disclaimer to which I have just called your attention?

A. It was because Mr. James said that if you substituted a spring for a weight in order to move the tappet out of engagement, that my claim 5 then with that change in the Marschalk device would read upon the Marschalk structure. In other words, he said that a spring and a weight would be an equivalent for moving the tappet up, just as we contend the lever and plunger are equivalents for moving it down.

Mr. Lyon: I think we ought to have Mr. James' letter here, and I am not relying on it for his opinion at all as an influence on the court; I am just relying on it because the witness has said that it was because of that letter that he filed this disclaimer.

The Court: Isn't the letter in the record which you have here? I am not going to postpone the case to get a letter that is in the record here already.

The Witness: I may have a photostat of it here somewhere.

Mr. Lyon: If you can produce it.

The Witness: I will see if I have it.

The Court: A conclusion of a lawyer representing an [270] adversary wouldn't carry much weight. If it has any relevancy, of course, it would be to show the attitude of the defendant here as

(Testimony of LeRoy J. Leishman.)

to why he disclaimed claim 5. That we will see. I don't care what the lawyer said about it, excepting a reference to that patent, because naturally the lawyer would put his best foot forward to say that his adversary had no claim at all. That is what results in a law suit.

The Witness: Here is the actual original letter. Let me see if this is it now, for sure. This is it.

Mr. Lyon: I offer the letter which has been produced by the witness as Plaintiff's Exhibit No. 1, for the limited purpose which the court has indicated.

The Court: Any objection to it?

Mr. Flam: Not if taken for that limited purpose, your Honor.

The Court: Yes. I have had too much experience with advocacy in lawyers' letters to take them as evidence, unless they come from the witness stand under oath, and then only when opinion evidence is of value to the court.

It will be received.

The Clerk: Plaintiff's Exhibit No. 1 in evidence.

(The letter referred to was marked Plaintiff's Exhibit No. 1, and was received in evidence.)

Q. (By Mr. Lyon): Mr. Leishman, I am going to read from [271] your testimony given before Judge Harrison as it appears beginning at the bottom of page 225 of the record in the Circuit Court

(Testimony of LeRoy J. Leishman.)
of Appeals, and ask you if you so testified before Judge Harrison. As indicated by the transcript this testimony was given in answer to questions propounded by Judge Harrison:

“Q. (By the Court): Mr. Leishman, what created a demand for these automatic tuners all of a sudden?

“A. I think, your Honor, that would be a very difficult question to answer. I don’t think I could answer it. I know that after several years, in which as far as I know none were used, the telephone dial type appeared in 1936 and it appears to me that the reason they began to be used then was because there had been certain mechanical tuners in existence that the manufacturers had invented but they were not very accurate. And it was about that time circuits were developed that would electrically compensate for the mechanical inaccuracies of those tuners and then it was possible to use this telephone dial type of tuner that came onto the market then. And all of those sets——

“Q. Let me ask wasn’t it the fact that they started to use radios in automobiles that created the real demand? [272]

“A. The first tuners that came out in 1936 of this telephone dial type were in household sets and I don’t think that——

“Q. But when did they start to use radios in automobiles?

“A. The first that I saw were in, I think, 1929 but I am not sure how accurate that is.

(Testimony of LeRoy J. Leishman.)

“Q. It has only been during 1937, 1938 and 1939 that there has been any great use in that respect, is that not true?

“A. The automobile radios came in about 1929, and, as far as I know, the first automobile radios that were equipped with mechanical automatic tuning were the receivers of the Crosley Corporation. I don't believe that the other mechanical tuners, the so-called telephone dial type, were used in automobile sets but I am not sure of that at all. I never saw any.

“Q. Do you know whether it is not a fact that the real extensive use of radios in automobiles developed during the last two or three years, where it has become almost universal now to have a radio in your car?

“A. I don't believe I understand your question, your Honor. [273]

“The Court: Read the question. Maybe it is not intelligible.

“(Question read by the reporter.)

“A. I think that is true, your Honor.

“Q. Did that fact create a demand for an automatic tuner? Was there any relation between the two as far as you know?

“A. I don't think there was much of a relationship because the larger part of the automatic tuners, by far, used in household sets and the first ones that came out during this last era or trend

(Testimony of LeRoy J. Leishman.)

of the mechanical automatic tuning came in in 1936, were in household sets.

“Q. I notice some of the advertisements that you have called attention to in these magazines of the defendant’s sets lay stress upon the safety feature. And I was trying to find out whether or not this safety feature—in other words, you recognize and I recognize in driving a car if you are manually trying to find your station it is creating a hazard that would not be there if you had an automatic tuner?

“A. That is certainly correct, your Honor.

“Q. And whether or not the use of a radio in the automobile created a demand for a [274] tuning device that would eliminate the hazards of detracting the attention of drivers?

“A. Well, I think that that factor was responsible for the sale and use of a larger number of automatic tuners; but I don’t know whether that factor would be large enough to be an important factor in creating a demand.

“Q. All at once, here in the last two or three years developed automatic tuners and they are in almost universal use now, except by people like me who have a radio that I am still using that is ten years old, otherwise modern people would have an automatic tuner now.

“A. I think that they were developed originally and used mostly in household sets. But in line with your thinking along that line, your Honor, I think

(Testimony of LeRoy J. Leishman.)

that push button tuning has been responsible for the sale of large numbers of automobile receivers that would not have been sold otherwise; that it has greatly stimulated the automobile receiver business when it became possible for automobile owners to have a safe type of tuning rather than the other type that I have always thought was very hazardous.

“Q. I know, but I was just trying to [275] find out if you knew why it was that, in an industry that is an important industry like the radio industry, that has had a good many years of background and experience now, why it was that all of a sudden all of them started to use automatic tuners.

“A. Well, I think I can——

“Q. And, as you have shown here, there are different types like you, yourself, have made more than one type.

“A. I think I can answer that question, now that I have given it some thought, your Honor. The tuners that previously had been used in the radio industry were complicated or bulky or large like the Zenith device, that added \$15 to the retail price of some of the sets, or else they were of complicated electrical structure, and there have been some mechanical tuners designed, particularly this telephone dial type, but it was not possible to use them. The industry, I think, would have been glad to have used them but the automatic frequency control circuits were developed at that time by means of

(Testimony of LeRoy J. Leishman.)

which, if you got a receiver almost in tune, this circuit would pull it in tune. Some manufacturers referred to that type of tuning as magnetic tuning because it would pull it right in [276] tune. So with that circuit type available it was possible to use those previous mechanical tuners, that is, previous to the introduction of my principles, that were not particularly accurate. They would get almost in tune and then the circuit would pull it into tune.

“Q. In other words, the developments in the radio industry made it feasible to use an automatic tuner that they could not use before?”

“A. That is it, your Honor.

“The Court: That is all.”

Did you so testify?

Mr. Lyon: At the recess I will hand the record to the reporter so that there can be no mistake in copying the testimony.

Mr. Flam: I object to that question. It doesn't seem to be in the nature of impeachment of any testimony that the witness has offered here before. It is not proper cross-examination.

Mr. Lyon: It wouldn't be impeachment, your Honor, unless the witness denied giving the testimony, and then I would have to prove it. But it is an admission by the witness in another action on the very matters testified to here. I believe I am entitled, as this is the party in the action, to present any material and relevant statement that he

(Testimony of LeRoy J. Leishman.)

has [277] anywhere, that he will admit having made anywhere, which bears on the issues of this case.

The Court: Of course we have the situation here that is unique on account of the attitude of the Circuit Court of Appeals in that appeal. As I stated yesterday, or perhaps the day before yesterday, whatever lurks in that record it seems to me was before the Circuit Court of Appeals, and even though that court in exercising its authority on appeal saw fit to eliminate certain features of the case that were in the record, it lurked in the record, they are in the record of that case and presumably they were before the Circuit Court of Appeals in that case, so that the problem here is only proper, in my judgment, because of a claim that before this court there has been an amplification, an extension, an addition to the record which was made in the case that was appealed from Judge Harrison's division of this court to the Circuit Court of Appeals of the Ninth Circuit. It is proper, therefore, for this court to know what was in the record before the Circuit Court of Appeals of the Ninth Circuit in the case that was appealed from Judge Harrison's division of this court.

Objection overruled.

Mr. Lyon: I believe Mr. Flam overlooked offering in evidence the Marschalk patent.

The Court: I think it is in evidence. [278]

The Clerk: The model is Exhibit E in evidence.

Mr. Lyon: I don't find in the record where

(Testimony of LeRoy J. Leishman.)

there was any offering of the patent itself. It was talked about a lot.

The Court: Is it Marschalk 2,072,897?

Mr. Lyon: That is correct. Exhibit E is the model.

The Court: It was referred to, and I think there were marks made on one of these figures.

The Witness: A good deal, yes.

Mr. Lyon: Could it be given, say, the number E-1 so that it will be tied to the model?

Mr. Flam: I think it was.

The Court: Apparently it was not marked. Let's see if it is in the transcript. I haven't looked at the transcript to see if it was or not.

It does no harm to mark it again, because it should be in the record.

Mr. Flam: I have no objection to your offering it in evidence.

Mr. Lyon: I am perfectly willing to offer it if you prefer. I thought it was offered at the time it was being talked about.

Mr. Flam: It doesn't matter. I can offer it in evidence and request that it be marked with a sub-number to the letter assigned to the Marschalk model. I believe it is [279] Exhibit E. We can have it numbered E-1.

The Court: Yes, it was offered on page 29 of the record, line 21, the defendant's Exhibit E in evidence. Well, that refers to the model here.

On page 26 of the record a document is referred

(Testimony of LeRoy J. Leishman.)

to as Defendant's Exhibit E for identification; on page 29 of the record the Exhibit E is offered and received in evidence, and the parenthetical statement here is that it is the model.

Mr. Flam: If your Honor would agree, I think we can simply have the patent designated as Exhibit E-1 in evidence.

The Court: So ordered.

Mr. Lyon: That is satisfactory.

(The document referred to was marked Defendant's Exhibit E-1, and was received in evidence.)

Q. (By Mr. Lyon): Mr. Leishman, you didn't answer my question. Did you testify in accordance with my previous question before Judge Harrison?

A. Yes, I gave that testimony; and I gave substantially the same testimony yesterday, and it is all correct.

Mr. Lyon: I will move to strike the volunteered statement as to whether or not what he gave yesterday was to the same effect, your Honor.

The Court: Yes, that will go out.

Q. (By Mr. Lyon): Mr. Leishman, was the Crosley Corporation [280], the first to bring out to the trade a push-button automobile radio set?

A. Using the straight-in push, do you mean?

Q. Yes.

A. I think it was.

Q. And that was introduced either in January or February, 1937, is that correct?

(Testimony of LeRoy J. Leishman.)

A. '38.

Q. '38? A. That is correct.

Q. Did you upon learning of that device serve a notice of infringement on the Crosley Corporation charging infringement of your original patent Exhibit Q in this case? A. Yes, I did.

Q. What was the date of that notice, if you remember, or approximate date?

A. It would probably have been some time in February, 1938. It was very shortly after the issuance of the patent, of the original patent, of which the patent here in suit is a reissue.

Q. Was that charge of infringement based on the manufacture and sale by the Crosley Company of tuners like Exhibit BB in this case?

A. Yes, it was.

Q. Following the sending of that notice of infringement [281] to the Crosley Corporation, did you have a meeting in Cincinnati with the firm of Allen & Allen, patent lawyers representing the Crosley Radio Corporation?

A. Yes, I did.

Q. At that meeting did the firm of Allen & Allen deny that the Crosley tuner like Exhibit BB infringed your original patent Exhibit Q in this case? A. Yes, they did.

Q. As a result of that interview did you decide to apply for a reissue of your patent Exhibit Q in this case, so as to cover the Crosley device like Exhibit BB? A. No.

(Testimony of LeRoy J. Leishman.)

Q. Was one of your purposes in applying for the reissue patent in suit to so modify the language of the claims of your original patent that you could eliminate the question of non-infringement which was asserted by Allen & Allen at the meeting that I have just referred to? A. No.

Q. I am going to read to you commencing at page 125 of the record before the Circuit Court of Appeals in the Associated case, and ask you if you gave the following testimony with reference to the same matter that I have just interrogated you about:

“Q. Did not the representatives of the Crosley Company at that meeting and [282] Mr. Yungblut contend that the Crosley tuner did not infringe the claim because of the limitation which they pointed out and urged should be construed to be in the claim?

“A. Yes; that is true.

“Q. So you knew before you applied for your reissue that the Crosley Corporation was contending that the reference in the original Claim 5 to means movable about a pivot referred to the lever that was movable about the pivot Q and contended that the claim should be so construed and, therefore, it was not infringed by the Crosley tuner? You knew that, did you not?

“A. That is a rather long question. May I ask to have it repeated?

“Mr. L. S. Lyon: Read it to the witness, please.

(Testimony of LeRoy J. Leishman.)

“(Question read by the reporter.)

“A. Yes; I knew that was their contention and position.

“Q. Isn't it a fact, aside from any intention you had of narrowing the new claims that you added by the reissue application, that one of the purposes of the reissue, one of your purposes, was to so modify the language in this [283] discussion with the Crosley representatives about it of Claim 5 that you could eliminate that question of non-infringement?

“A. I think I can say yes to that question.

“Q. Isn't that the reason that in Claim 7 you did modify that language? We will now look at this comparative analysis chart that I have here of the claims. You will notice that Claim 5, element No. 2 of Claim 5, reads 'means movable about a pivot' and in Claim 7 that language is changed to read 'means adjustably movable about a pivot.' The purpose of that was to direct that element of the claim to the tappet as distinguished from the pivot Q, isn't that correct?

“A. I would say that substantially that is correct. * * *”

Did you so testify?

A. Yes, that is correct.

Mr. Lyon: I will ask the reporter to use this printed transcript.

Q. (By Mr. Lyon): Can you produce Plain-

(Testimony of LeRoy J. Leishman.)

tiff's Exhibit 25 in the Associated Wholesale Electric case?

A. What was that exhibit?

Q. That was referred to at page 253 of the transcript in that case and is the model you used before Judge Harrison to illustrate the Marschalk device. [284]

A. That model is an exhibit in Oklahoma, but we have a duplicate of it here.

Q. Do you have a duplicate of it here?

A. I think that one that we have been using here is just the same as the one we had in that case.

Mr. Lyon: Will you let me have Exhibit E, Mr. Clerk, please?

(The exhibit was handed to counsel.)

Q. (By Mr. Lyon): Did not Exhibit 25, your Exhibit 25 in the case before Judge Harrison, differ from this Exhibit E in this case by including the gang condenser No. 29 and the multiplying segment No. 32 shown in Figure 13 of the Marschalk patent Exhibit E-1?

A. No, there was no condenser of any kind attached to that exhibit in the Crosley case.

Q. You are sure of that?

A. I am positive of that.

Q. Would the presence of such a gang condenser and multiplying segment tend to restrain movement of the rocker during the setting of the tappet?

A. Slightly.

(Testimony of LeRoy J. Leishman.)

Q. In Exhibit No. E, which you demonstrated to the court, the rocker is free to rotate with practically no friction, in other words, it can be described as practically floating, is that correct? [285]

A. I don't think it can be described as floating. However, it is very free to move as they need to be in these automatic tuners.

Q. If the rocker was free to rotate in the way that the rocker in Exhibit E is free to rotate, what would happen to the tuner in an automobile set if the plungers had been pulled away from the rocker so that they were not in contact with the rocker, and the automobile went over a bump or a road that caused the automobile to vibrate?

A. It would be de-tuned unless there was some kind of a brake applied, as they always do on these automatic tuners, including those of the plaintiff.

Q. Is there any automatic brake shown on Exhibit E?

A. No; but at the time that the difficulty arises in that tuner the brake is always taken off, as in the plaintiff's tuners.

Q. At the time the car is going over the road?

A. No; at the time that the setting takes place, the brake is always removed.

Q. Are you sure of that in connection with the plaintiff's accused tuners? A. Yes.

Q. What do you base that on?

A. I can show you on the tuners.

Q. You can show how to take the brake off?

(Testimony of LeRoy J. Leishman.)

A. I will show you as soon as you press the button the first thing that happens is that the load is taken off so that the rocker is free to move.

Q. Was there any brake on the Crosley tuner?

A. I don't believe that there was on the Crosley tuner. I am not certain about that. I don't remember there being any brake on it.

Q. I thought you said they always have brakes on these automatic tuners?

A. In recent years they put them on because it is very desirable. I know that was discussed when these tuners were first considered for automobiles it would be necessary to put on some kind of brake that would be immediately removed.

Q. Will you repeat for the court the demonstration that you made on your direct examination, it will only take a minute and I want to get it back in the court's mind, of how the Marschalk device would be set, and how you would make a test during the setting of coaxiality on this model Exhibit E.

A. Do you want me to adjust it, you say?

Q. You made a demonstration to the court of how to set this Exhibit E and how during the setting to determine whether or not there was coaxiality.

A. During the setting you don't have any occasion to [287] determine whether there is coaxiality; you merely press down on the tappet, press down on the manually operable member——

Q. Excuse me. Instead of using the word "set-

(Testimony of LeRoy J. Leishman.)

ting," I should have said during the adjustment of the tappet.

A. During the adjustment of the tappet you have no occasion to make any test of coaxiality. The instrument is built in a certain way, and during the setting you merely press down on the manually operable member, so that the tappet will take the angular position of the rocker, and then you tighten the tappet in the position to which it has been adjusted.

Q. I think you misunderstood me, Mr. Leishman. You made a test of this device, Exhibit E, which you said demonstrated whether or not the device was coaxial.

A. I don't remember having done that. Do you mean yesterday in the demonstration of this?

Q. Yesterday or the day before.

A. I have no remembrance of that. You can look at it and see that it isn't coaxial.

Q. Did you not state in your demonstration for the court that the test for coaxiality that should be applied was that you should adjust the tappet and then press the plunger and see whether the plunger moved the rocker?

A. I don't remember ever making any such remark.

Q. What is the test for coaxiality that you testified [288] and demonstrated to the court.

A. The only test that we have had here at all, or any demonstration with respect to it, was the

(Testimony of LeRoy J. Leishman.)

model that we had in which it was obvious upon visual inspection that the tappet was coaxial with the rocker.

The Court: Take the transcript on page 26, Mr. Lyon, in connection with that.

Q. (By Mr. Lyon): Referring to page 27, the demonstration that you made, pages 27 and 28.

The Court: Do you have the copy of the transcript?

The Witness: Yes. I haven't read it yet. I haven't had an opportunity to. I don't have it here.

(The transcript was handed to the witness by the court.)

Q. (By Mr. Lyon): Will you read that over?

A. Is it on page 27?

Q. Page 27 and 28.

A. There is nothing said there about any test of coaxiality.

Q. Will you repeat the demonstration which you made, which is referred to on pages 27 and 28 of the record?

A. Do you want me to read it and then perform the operations? Or shall I do it by memory?

Q. Just repeat the demonstration and state what you are doing, describe what you are doing for the purpose of the record. [289]

A. To set the tappet you first adjust the rocker to the angular position required for a given station, in other words, you tune in the station, then you press down on the manually operable member so

(Testimony of LeRoy J. Leishman.)

that the rocker will assume the angular position of the tappet. And I tried that with the rocker perfectly straight, and then when I pressed the tappet into an engagement of the rocker there was very little rotation of the rocker. And then I put the rocker at a tilt, at an extreme angular position, and brought the tappet down into engagement with it and the rocker flipped around, and then I tilted it, as I remember, in the opposite direction and brought the tappet down into engagement with the rocker and the rocker flipped around.

Q. You referred, did you not, to the fact that after setting the tappet then releasing the lever, that if the lever was brought back to engage the tappet there was a movement as shown by the pointer of the rocker? A. That is right.

Q. And you stated that that movement was because the center of the axis of the tappet and the axis of the rocker were not coaxial?

A. I don't remember that I said that at all in the initial arrangement. Later on after I discussed this tuner and several others, I showed how the difficulty could be [290] solved by making the tappet coaxial with the rocker.

Q. You stated, did you not, that that was a test for coaxiality? A. No, I did not.

Q. Is it?

A. Well, we know now as a result of making this tuner, that when the device is coaxial, when the

(Testimony of LeRoy J. Leishman.)

tappet is coaxial with the rocker, that that does not occur.

Q. Suppose you wanted to test a tuner to see whether or not the axis of the tappet and the axis of the rocker were on center, would that be the way you would recommend testing it?

A. If I were going to do it now, that would be one——

Q. Can you answer that yes or no?

A. That would be the way I would test it now having made this invention.

Q. That is not the test that you stated to Judge Harrison should be applied? I am correct in that, am I not?

A. I think there is no discrepancy here at all, as I remember it. I think I told——

Q. Do you remember a test for coaxiality in which the lever tappet is maintained in contact with the rocker, after the tappet has been adjusted and the rocker is rotated, and you applied your finger to the lever, or thumb member on the plunger to see if there was any movement [291] or walking of that member? Do you remember that test?

A. I remember that test very well.

Q. Isn't that the test that you applied before Judge Harrison and testified was the correct test for coaxiality?

A. I told him in testing tuners of the coaxial rocker and tappet type, that you could find out whether they were coaxial, whether the tappet and rocker was coaxial with the axis of the tappet——

(Testimony of LeRoy J. Leishman.)

maybe I better start that again—by pressing down upon the manually operable member, and if they were not coaxial in tuners of this type, that the manually operable member would move.

Q. In January, 1939, didn't you issue a written statement to the radio and television manufacturers telling them how to test tuners to determine whether they had your feature of coaxiality or not?

A. Yes, I did; and that was the test I recommended.

Q. Which test,—the one you have demonstrated to Judge McCormick or the one you demonstrated to Judge Harrison?

A. The test I demonstrated to Judge Harrison.

Q. If you applied the test that you demonstrated to Judge Harrison to the device of the Schaffer patent, specimens of which are here in evidence as Exhibits H and I, is there any movement of the thumb piece on the lever? [292]

A. You can't apply that test to the Schaffer mechanism.

Q. I didn't ask you that. If you apply the test of keeping the tappet in contact with the racks, and moving the racks, will there be movement of the thumb piece on the lever of the Schaffer device?

A. There won't be. But that isn't the test that I recommended. I recommended that test—

Q. The difference is in the test that you recommend you say "move a rocker"—well, the rocker is replaced in the Schaffer device by racks, and you

(Testimony of LeRoy J. Leishman.)

move the racks, that is the sole difference in the test, isn't it?

A. Well, that is the difference in the device to which the test was applied. ..

Q. I am not asking you to argue the case. That is the sole difference, isn't it?

A. That is not the difference in the test; that is the difference in the device that you apply the test to.

The Court: We will recess until 2:00 o'clock.

(Whereupon, at 12:00 o'clock noon, a recess was taken until 2:00 o'clock p.m., of the same day.)

Thursday, May 27, 1948—2:00 P.M.

The Court: Proceed, gentlemen.

Mr. Flam: Will you take the stand again, Mr. Leishman?

- LeROY J. LEISHMAN

called as a witness by and on behalf of the defendant, having been first duly sworn, resumed the stand and testified further as follows:

Cross-Examination

(Continued)

By Mr. Lyon:

Q. I will ask Mr. Leishman if he can recognize——

Mr. Flam: Pardon me, Mr. Lyon. If your Honor please, I think just before the recess this

(Testimony of LeRoy J. Leishman.)

witness was asked regarding certain tests for co-axiality. I think the best evidence as to what tests were suggested would be the letter that Mr. Leonard Lyon referred to. I would like to have it introduced in evidence if there is such a letter.

Mr. Lyon: I will ask Mr. Leishman if he recognizes this letter as the letter he addressed to Radio & Television Manufacturers, addressed to the Radio Industry re patent infringement, April 28, 1939, and in which he explained how to test one of these tuners to determine whether or not it embodied the feature that he was complaining of.

(Handing object to the witness.)

The Witness: This apparently is not a photographic [294] copy so I will have to read it to see if it is true with respect to this matter.

The Court: I don't want to take up time unnecessarily. It is either or is not a photostat. If counsel says it is I am willing to take his word for it.

Mr. Lyon: I am sure, your Honor, that I don't know how I got that copy. I have had it for years.

The Court: Well, we won't take up our time here by letting people read documents. Photostats can be produced which will save our time immeasurably.

Mr. Flam: I thought possibly Mr. Leishman would recognize it if it is his.

The Court: Apparently he doesn't. He said he has to read it.

(Testimony of LeRoy J. Leishman.)

The Witness: I just need to read one more paragraph. Yes, this is. I am willing to accept this as a true copy and notice that I sent to the radio industry explaining how to test tuners containing a rotatable rocker and an adjustable tappet to see whether the rotational axis of the tappet was coaxial with the rotational axis of the rocker.

Mr. Lyon: I will offer the notice which the witness has just identified as Defendant's Exhibit B.

The Clerk: That should be Plaintiff's Exhibit 2.

The Court: So ordered.

(The document referred to was marked Plaintiff's Exhibit 2, and was received in evidence.)

Q. (By Mr. Lyon): Now, will you take Defendant's Exhibit M and demonstrate the tests as set forth in that letter on this exhibit?

A. Yes. As explained in that letter, if you desire to determine whether the tappet is coaxial with the rotatable rocker you push the loosened tappet into engagement with the rotatable rocker and then while holding it in engagement you rotate the rocker and if, while you are turning the rocker with which the tappet is engaged, the button does not move up and down that is the test which I discovered would determine whether or not they were coaxial, and I prescribed that test to the industry to make on radio receivers containing tuners with a rotatable rocker.

Q. Now, will you perform a similar test on the Zenith model, Exhibit J, in which——

(Testimony of LeRoy J. Leishman.)

The Clerk: That is Exhibit I, Mr. Lyon.

Mr. Lyon: Exhibit I, excuse me. In which you adjusted the tappet in a similar way and then move the shaft by taking hold of the universal joint and hold your finger on the button, and state whether or not there is any movement of the button in that model.

The Witness: Your Honor, that test was one to apply to a tappet.

Q. (By Mr. Lyon): I am not asking the witness to argue the question. I am asking him to make the test. [296]

Mr. Flam: I will make the objection because the test prescribed by the witness as set forth by the letter, relates only to rotatable rockers and adjustable tappets and this device doesn't have a rotatable rocker at all.

Mr. Lyon: Your Honor, you see as the shaft is being turned it is operated by two opposite little moving racks instead of by a rocker, but we contend that the racks and the rocker are mechanical equivalents and I think we are entitled to have a demonstration.

The Court: I wish you would put that in front of the witness instead of in front of the bench.

Mr. Lyon: Excuse me.

The Court: The question merely calls for the actuating of this exhibit. It doesn't call for anything else and you may answer the question.

The Witness: I have loosened the tappet. It is

(Testimony of LeRoy J. Leishman.)

still pretty tight. I guess that is as free as we can make it. I have loosened it but I am unable to rotate the rocker to see if its rotational axis is in line.

Q. (By Mr. Lyon): I didn't say a thing about a rocker. I asked you to rotate the shaft by means of taking hold of this universal joint that is on the model.

A. I will be glad to agree that if you move the elevators or rectilinear movable members in this device and hold the button down so that the tappet engages these devices [297] that move up and down, the bars connecting the racks, that there is no up and down movement of the button.

Q. And is not this Zenith tuner of the Schaefer patent, which is illustrated here by Exhibit I, capable of positioning the shaft, 9, as shown in the Schaefer patent just as accurately as the structure shown in the drawing of your patent are capable of positioning the shaft? A. No.

Q. Shaft S? A. No.

Q. What is the difference?

A. You have to transmit the motion through, as we demonstrated yesterday, ten different movable parts, and the more parts you have to transmit motion through the more chance of inaccuracy creeps in.

Q. That Zenith device by use of the racks in lieu of a rocker embodies a multiplying system, does it not? A. I wouldn't say so.

Q. There is not a multiplying system in the Zenith rocker?

(Testimony of LeRoy J. Leishman.)

A. Nothing that I would call a multiplying system, no.

Q. What?

A. No, there is nothing in there that I would call a multiplying system. [298]

Q. Do you have to have a multiplying system with the device shown in the drawings of your patent? A. Yes.

Q. Is that multiplying system shown in your patent? A. No.

Q. Does there have to be a multiplying system added to the structure shown in the Zenith patent?

A. No.

Q. Or the Schaefer patent?

A. No. I would like to qualify one of the answers to one question that you asked me. You asked me if there had to be a multiplying device added to my device to use it with a radio set. That depends entirely upon the angular rotation required of the condenser or the type of movement needed for impedance bearing device in the tuning mechanism. If the condenser moves only a relative small amount as in some of the models we had here yesterday, no motion multiplying means is required. If you used it in connection with permeability tuning such as those in evidence, no motion multiplying means is required. But if you have to have a rotation of the shaft of a greater number of degrees than the number of degrees of rotation of the rocker, then it would be necessary to employ motion multiplying means such as gears.

(Testimony of LeRoy J. Leishman.)

Q. How many degrees of rotation must be provided for [299] in the case of condenser in order to scan the entire broadcast band.

A. You can do it in about sixty degrees with such a tuner here in evidence.

Q. And without any multiplying mechanism?

A. Yes.

Q. Now, have you ever determined precisely how many degrees of rotation the rocker, 48, is capable of in the device shown—in a device constructed as shown in your patent drawings of the re-issue patent in suit where it is accompanied with the other rocker, 54?

A. No. I have never measured the exact number of degrees because——

Q. I don't care about why you haven't if you haven't. A. All right.

Q. Well, now, in the Zenith device of which Exhibit I is a model and which is built under the Schaefer patent, does that device embody any mechanism which multiplies the number of degrees that the shaft is turned by the racks?

A. That is accomplished by the relative size of the gear with which the racks mesh. What you would call motion multiplying there is determined by the size of that gear. If you had a large gear it would rotate through a smaller angular arc but by using the relatively small gear you can obtain a movement of 180 degrees and the tuner is so arranged. [300]

(Testimony of LeRoy J. Leishman.)

Q. Now in the tuners made by the Crowe Electric Company to which you have referred—the Crowe Name-Plate Company, did they have multiplying mechanism of some kind added to them?

A. You mean as sold by Crowe?

Q. Yes, installed for use in a car.

A. In some cases they did. Whether they did in all cases, I don't know.

Q. In those cases that you know of where they did will you tell us what kind of a multiplying mechanism was employed?

A. Two different kinds with which I am familiar. In one case a small wheel, or a wheel rather. A pulley would be attached to the shaft and connected to the rocker and another pulley would be connected to the condenser and a string or cord or cable would be wrapped around these two pulleys and the pulleys would have such a ratio in diameter that when if used with 180-degree condensers when the rocker turned through an arc of 60 degrees that that motion will be multiplied by the pulley system so the condenser would turn 180 degrees. And on other sets there would be a gear or at least a gear segment which would be part of a gear, attached to the rocker and two gears or what is called a split gear would be attached to the condenser with a little spring between them to take out any play between the [301] teeth, and when the teeth are properly shaped and the springs have the right tension it is possible, when the rocker turns, for that motion to be trans-

(Testimony of LeRoy J. Leishman.)

mitted through those gears to the condenser without any appreciable loss or inaccuracy.

Q. Now, how many parts made up that extra mechanism which was used as you have stated on the tuners made by the Crowe Name-Plate Company?

A. Three. Three if you use the pulley. It would be the pulley system—two pulleys and the third part would be the cord and if you used the gearing arrangement there would be one gear and then the two parts of the split gear and then a very small spring.

Mr. Lyon: I will ask that the tuner which I am about to show to the witness be marked for identification as Plaintiff's Exhibit No. 3 for identification.

The Court: It may be so marked.

(The article referred to was marked as Plaintiff's Exhibit No. 3, for identification.)

Q. (By Mr. Lyon): I show you a tuner which I am informed was equipped by General Motors on various of its models and ask you if you have ever seen that tuner before or one like it?

A. No, I never have.

Q. Can you recognize that in lieu of a rocker that tuner employs a rack member, rack members somewhat like those [302] in the Zenith model, Exhibits H and I?

A. Yes, there is quite a resemblance.

Q. You have no knowledge whatever of such a

(Testimony of LeRoy J. Leishman.)

tuner ever having been used by the General Motors Corporation?

A. The only knowledge that I have of General Motors using such a tuner was by statements that were contained in the transcript of depositions taken in Kokomo, Indiana, in an interference to which I was a party, and some reference was made to this tuner in the answers to the interrogatories. It was stated that this tuner wasn't made——

Q. Have you any opinion as to whether or not the tuner that you have in front of you, Plaintiff's Exhibit 3 for identification, is capable of positioning the condenser shaft with sufficient accuracy or satisfactory use in an automobile radio?

Mr. Flam: If your Honor please, I think as long as the witness said he has never seen a tuner like this before it might require an inspection by him to make the proper answer to that question.

The Court: Well, he will say that if he thinks it.

The Witness: I can't say whether it would or not. I can give my reasons why if you are interested in them.

Q. (By Mr. Lyon): Well, I am not very much interested in your reasons if you can't say one way or the other.

Now, will you take Exhibit E in this case and perform for the court here the same demonstration that you made to Judge Harrison in the Associated case with Plaintiff's Exhibit 25 in that case, which you contended showed that it was difficult to set

(Testimony of LeRoy J. Leishman.)

or adjust such a device which Judge Harrison, as shown by the record in the Associated case at page 254, then performed himself and stated in the record as follows—I think I have the wrong page. If I may just check my notes for a moment to be sure. I have the quotation but not the page number:

“The court has tried the instrument and the witness’ testimony does not add anything to what the court has already ascertained from an examination and an effort on its part to work the mechanical device. I had no difficulty in setting the device at the extreme end, but it is true that a person has to use a greater amount of care. That was the result of the court’s own experiment with the instrument.”

Do you have the question in mind?

A. Yes, I do.

Q. I want you to repeat with Exhibit E the demonstration that you made before Judge Harrison and which he then repeated himself and then made this observation which I have read from the record in the Associated case.

A. Judge Harrison turned the rocker to one end of the [304] scale or the other, so it was tilted to an extreme angular position.

The Court: Just a moment. You may proceed.

The Witness: Judge Harrison tilted the rocker to an extreme angular position at one end or other of the dial and then he brought the tappet into engagement with it. Of course the tappet may be

(Testimony of LeRoy J. Leishman.)

in any position within its limited rotation. He brought it down into engagement with it and you have to keep that in the angular position and then he was able to set this at the angular position without it moving, but he said he had to use a great deal of care.

Q. (By Mr. Lyon): Mr. Leishman, referring to your Exhibit N, when the tappet is carried by a lever which is fulcrumed at a center such as the point Q as shown in the patent drawings of the re-issue patent in suit, it is unnecessary to provide any guides or sliding guides for positioning the tappet, is it not?

A. The fulcrum Q acts as a guide so you don't have to provide any additional guides or slides.

Q. Is the fulcrum Q a sliding guide?

A. Well——

Q. Can you answer that?

A. The hub slides around the shaft.

Q. But is it a bearing?

A. Yes, it is a bearing. [305]

Q. But it is a pivot?

A. It is a pivoted bearing or rotational bearing.

Q. Now, if you have the tappet carried by a plunger which has no pivot it is necessary to provide sliding guides, is it not?

A. Yes, that is correct.

Q. Referring to your exhibit MM and the General Motors tuner of the type which is Exhibit 1 to the complaint in this case, does that tuner have

(Testimony of LeRoy J. Leishman.)

the tappet carried by a lever which is pivoted?

A. No.

Q. Does that tuner require the presence of sliding guides? A. Yes.

Mr. Lyon: That is all, your Honor.

Redirect Examination

By Mr. Flam:

Q. I think you were asked on cross-examination regarding some correspondence with Mr. James of James & Franklin. Can you produce the letter or a copy of the letter that you wrote to James & Franklin about this subject of the desirability of disclaiming Claim 5 from the patent?

A. Yes, I have it.

Mr. Flam: Your Honor, I offer the carbon copy of the letter in evidence, dated January 14, 1939, and addressed [306] to James & Franklin.

The Court: It will be received and marked filed.

The Clerk: Defendant's Exhibit WW in evidence.

(The document referred to was marked Defendant's Exhibit WW, and was received in evidence.)

Q. (By Mr. Flam): Now, I think you further said that this Marschalk patent, which is the subject of the communications between you and James & Franklin, was cited in an office action. Do you have the office action in which that patent was cited? A. Yes, I do.

(Testimony of LeRoy J. Leishman.)

Mr. Flam: I offer in evidence the copy of the office action dated October 5, 1937, in an application, serial No. 149442.

The Court: It will be received and marked filed.

The Clerk: Defendant's Exhibit XX in evidence.

(The document referred to was marked Defendant's Exhibit XX, and was received in evidence.)

Q. (By Mr. Flam): Did this application referred to in Exhibit XX mature as a patent, do you know?

A. I don't remember. I think it has but I don't remember whether it has or not.

Q. That application has no relation to the patent here in suit, does it?

A. No, none whatever. [307]

* * *

Q. (By Mr. Flam): I show you Defendant's Exhibit Q in evidence, which is the original of the patent which was reissued and is now in suit. Did you consider that that patent, 2108538, of which Exhibit A is a reissue, was infringed by the Crosley Corporation? A. I did.

Q. Did the interview with the Crosley attorneys in [309] March of 1938 in any way change your opinion that they had infringed that patent?

A. No, they did not.

Mr. Lyon: I think that is incompetent, your Honor, what he did about the reissued patent.

(Testimony of LeRoy J. Leishman.)

Mr. Flam: Then I move to strike all that was adduced on cross-examination.

The Court: The objection is overruled. I think it is proper.

Mr. Flam: Did he answer the question?

(Answer read.)

Q. (By Mr. Flam): Did the conference with the Crosley attorneys in March of 1938 have any bearing at all upon your desire to apply for a re-issue?

A. Yes, it did.

Q. What?

A. I decided that one reason that would make it desirable to apply for a reissue would be to have claims that wouldn't be capable of the misconstruction that had been placed upon them in the interviews with the Crosley attorneys.

Q. What opportunities have you had to find out what type of sets are now on the market, either for home radio receiver sets or for automobiles?

A. I haven't had any.

Q. Why? [310]

A. Because my time in the daytime has been fully occupied with the design and manufacture of X-ray equipment and my evenings and Saturdays and Sundays have been taken up with patent matters and with the carrying on the legal side of the Radio Condenser and General Instrument Company suit and matters pertaining to these suits. All of the time I am away from the Stereo-Fluoroscope Corporation has been occupied with this litigation.

(Testimony of LeRoy J. Leishman.)

Q. How long has that degree of busyness been in effect?

A. Well, that has been going on for more than three years.

Q. Have you done any shopping for autos or radio sets in the past few years?

A. No, none whatever.

Mr. Flam: That is all.

The Court: I want to ask one question along that line.

Mr. Lyon: No further questions.

The Court: To clarify in my own mind a matter in this case that is now before the court.

Mr. Leishman, originally you appeared in propria persona—that is, you appeared for yourself without an attorney.

The Witness: That is right.

The Court: And you presented a number of proceedings [311] before courts in this district—in the division of this court in which Judge Yankwich sits, did you not?

The Witness: That is correct.

The Court: And then later on you got the assistance of Mr. Flam?

The Witness: That is correct.

The Court: That is all.

Mr. Lyon: I have no questions, your Honor.

Mr. Flam: If your Honor please, the plaintiff rests, but I would—the defendant rests—but I would like to reserve the privilege of introducing in evidence certain other matters as to which, probably,

(Testimony of LeRoy J. Leishman.)

a stipulation has been entered into, before the end of the trial. I think I can probably formulate them tonight and introduce them tomorrow.

I notice also that the two exhibits exemplified by Exhibits H and I have not been formally offered in evidence. I think they are merely marked for identification. In any event, I offer them now.

The defendant also offers in evidence the answers to plaintiff's interrogatories that are on file in the case now. I am not offering in evidence the interrogatories because these answers are formally set forth in the interrogatories and they may be taken as a complete record of both the interrogatories and the answers. [312]

The Court: It is so ordered and so received.

Mr. Lyon: Need those be given a separate exhibit number or copied into the record as part of the testimony, or may they just be——

The Court: I don't think it is necessary to copy them into the record now. They are here in pretty good typewritten form. I have observed them in the file.

Mr. Clerk, counsel had better indicate to you the ones he wants and they may be marked as exhibits in this case.

Do you have a question, Mr. Lyon?

Mr. Lyon: I have no questions.

The Clerk: Exhibits H and I are admitted in evidence, your Honor?

The Court: Yes.

(The models referred to were marked Defendant's Exhibit H and I and were received in evidence.)

The Clerk: And Defendant's Exhibit YY are plaintiff's answers to defendant's interrogatories filed May 15th, 1948.

Mr. Lyon: Mr. Schwarz.

(The documents referred to were marked Defendant's Exhibit YY, and were received in evidence.) [313]